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BEFORE THE ARIZONA CORPORATION COMMISSION

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**COMMISSIONERS**

JEFF HATCH-MILLER, Chairman  
WILLIAM A. MUNDELL  
MIKE GLEASON  
KRISTIN K. MAYES  
GARY PIERCE

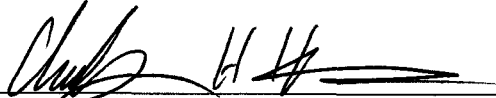
IN THE MATTER OF THE APPLICATION OF  
UTILITY SOURCE, L.L.C. FOR A  
DETERMINATION OF THE CURRENT FAIR  
VALUE OF ITS UTILITY PROPERTY AND  
FOR AN INCREASE IN ITS WATER AND  
WASTEWATER RATES AND CHARGES FOR  
UTILITY SERVICES.

DOCKET NO. WS-04235A-06-0303

**NOTICE OF FILING  
DIRECT TESTIMONY**

Staff of the Arizona Corporation Commission hereby files the Direct Testimony of Jeffrey M. Michlik, Steven P. Irvine, and Jian W. Liu, of the Utilities Division, in the above-referenced matter.

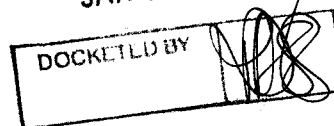
RESPECTFULLY SUBMITTED this 19<sup>th</sup> day of January, 2007.

  
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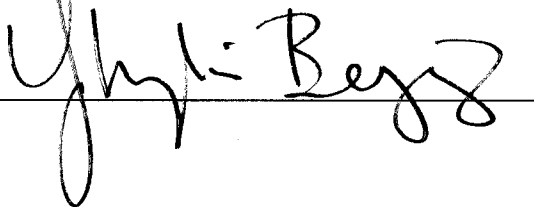
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**DIRECT  
TESTIMONY  
OF  
JEFFREY M. MICHLIK**

**STEVEN P. IRVINE**

**JIAN W. LIU**

**DOCKET NO. WS-04235A-06-0303**

**IN THE MATTER OF THE APPLICATION OF  
UTILITY SOURCE, L.L.C., AN ARIZONA  
LIMITED LIABILITY COMPANY, FOR  
A DETERMINATION OF THE CURRENT  
FAIR VALUE OF ITS UTILITY PROPERTY  
AND FOR AN INCREASE IN ITS WATER  
RATES AND CHARGES FOR UTILITY  
SERVICES**

**JANUARY 19, 2007**

**BEFORE THE ARIZONA CORPORATION COMMISSION**

JEFF HATCH-MILLER

Chairman

WILLIAM A. MUNDELL

Commissioner

MIKE GLEASON

Commissioner

KRISTIN K. MAYES

Commissioner

GARY PIERCE

Commissioner

IN THE MATTER OF THE APPLICATION OF )  
UTILITY SOURCE, L.L.C., AN ARIZONA )  
LIMITED LIABILITY COMPANY, FOR )  
A DETERMINATION OF THE CURRENT )  
FAIR VALUE OF ITS UTILITY PROPERTY )  
AND FOR AN INCREASE IN ITS WATER )  
RATES AND CHARGES FOR UTILITY )  
SERVICES )

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DOCKET NO. WS-04235A-06-0303

DIRECT

TESTIMONY

OF

JEFFREY M. MICHLIK

PUBLIC UTILITIES ANALYST IV

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

JANUARY 19, 2007

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**EXECUTIVE SUMMARY  
UTILITY SOURCE, LLC  
WATER DIVISION  
DOCKET NO. W-04235A-06-0303**

Utility Source, LLC – Water Division (“Company”) is an Arizona limited liability company. The water utility is located in Coconino County. The Company’s water system is located just north of highway 40 in Bellemont, Arizona. The Company served approximately 337 customers during the test year ended December 31, 2005. The Company’s current rates were approved in Decision No. 67446, dated January 4, 2005.

Rate Application:

The Company proposes rates that would increase operating revenue by \$401,245 to produce operating revenue of \$575,572 resulting in operating income of \$323,349, or a 230.17 percent increase over test year revenue of \$174,327. The Company also proposes a fair value rate base (“FVRB”) of \$3,079,513, which is its original cost rate base, and a 10.50 percent rate of return on the FVRB.

Staff recommends rates that would increase operating revenue by \$193,122 to produce operating revenue of \$367,449 resulting in operating income of \$196,630, or a 110.78 percent increase over adjusted test year revenue of \$174,327. Staff recommends a FVRB of \$2,048,228, and a 9.60 percent rate of return on the FVRB.

Rate Design:

Due to the facts related in Decision No. 67446, in which the Company did not have a valid Certificate of Convenience and Necessity (CC&N) and was charging rates that were not approved by the Commission; Staff, in an effort to alleviate the rate burden on customers, has accepted the Company’s proposal and will include estimated usage of 350 homes that are currently being built, in the rate design.

The Company proposes an inverted three-tier rate design for all residential meter size customers and flat commodity rates for multi-family, mobile home, commercial customers, and construction meter and standpipe customers. The typical 3/4-inch meter residential bill with a median usage of 4,500 gallons would increase by \$44.78, or 233.02 percent, from \$19.22 to \$63.99.

Staff recommends an inverted three-tier rate design for 5/8-inch meters and 3/4-inch meters, and an inverted two-tier rate structure for larger meters. The recommended rate structure conforms to those regularly adopted by the Commission in recent years. The typical 3/4-inch meter residential bill with median usage of 4,500 gallons would increase by \$22.07, or 114.83 percent, from \$19.22 to \$41.28.

1 **INTRODUCTION**

2 **Q. Please state your name, occupation, and business address.**

3 A. My name is Jeffrey M. Michlik. I am a Public Utilities Analyst IV employed by the  
4 Arizona Corporation Commission ("ACC" or "Commission") in the Utilities Division  
5 ("Staff"). My business address is 1200 West Washington Street, Phoenix, Arizona 85007.  
6

7 **Q. Briefly describe your responsibilities as a Public Utilities Analyst IV.**

8 A. In my capacity as a Public Utilities Analyst IV, I analyze and examine accounting,  
9 financial, statistical and other information and prepare reports based on my analyses that  
10 present Staff's recommendations to the Commission on utility revenue requirements, rate  
11 design and other matters. I also provide expert testimony on these same issues.  
12

13 **Q. Please describe your educational background and professional experience.**

14 A. In 2000, I graduated from Idaho State University, receiving a Bachelor of Business  
15 Administration Degree in Accounting and Finance, and I am a Certified Public  
16 Accountant with the Arizona State Board of Accountancy. I have attended the National  
17 Association of Regulatory Utility Commissioners' ("NARUC") Utility Rate School,  
18 which presents general regulatory and business issues.  
19

20 I joined the Commission as a Public Utilities Analyst in May of 2006. Prior to  
21 employment with the Commission, I worked four years for the Arizona Office of the  
22 Auditor General as a Staff Auditor, and one year in public accounting as a Senior Auditor.  
23

24 **Q. What is the scope of your testimony in this case?**

25 A. I am presenting Staff's analysis and recommendations regarding Utility Source, LLC's  
26 ("Company") application for a permanent increase in its rates and charges for water utility



1 service within Coconino County, Arizona. I am presenting testimony and schedules  
2 addressing rate base, operating revenues and expenses, revenue requirement, and rate  
3 design. Staff witness Mr. Steve Irvine is presenting Staff's Cost of Capital and related  
4 recommendations. Mr. Jian Liu is presenting Staff's engineering analysis and related  
5 recommendations.

6  
7 **Q. What is the basis of your testimony in this case?**

8 A. I performed a regulatory audit of the Company's application and records. The regulatory  
9 audit consisted of examining and testing financial information, accounting records, and  
10 other supporting documentation and verifying that the accounting principles applied were  
11 in accordance with the Commission adopted NARUC Uniform System of Accounts  
12 ("USOA").

13  
14 **BACKGROUND**

15 **Q. Please review the background of this application.**

16 A. Utility Source is an Arizona limited liability company. The water utility is located in  
17 Coconino County. The Company's water system is located just north of highway 40 in  
18 Bellemont, Arizona. The Company served approximately 337 customers during the test  
19 year ended December 31, 2005. The Company's current rates were approved in Decision  
20 No. 67446, dated January 4, 2005. Pursuant to Decision No. 67446, the Company filed an  
21 application on May 1, 2006, requesting a determination of the current fair value of its  
22 utility property and permanent rate increase for its water and sewer divisions. On July 3,  
23 2006, Staff filed a letter declaring the application sufficient.

**CONSUMER SERVICES**

**Q. Please provide a brief history of customer complaints received by the Commission regarding the Company. Additionally, please discuss customer responses to the Company's proposed rate increase.**

A. Staff reviewed the Commission's records and found zero complaints, six inquiries, and thirteen opinions during the past three and a half years. All of the thirteen opinions were opposed to the proposed rate increase.

**SUMMARY OF FILING, RECOMMENDATIONS, AND ADJUSTMENTS.**

**Q. Please summarize the Company's proposals in this filing.**

A. The Company proposes rates that would increase operating revenues by \$401,245 to produce operating revenue of \$575,572 resulting in operating income of \$323,349, or a 230.17 percent increase over test year revenue of \$174,327. The Company also proposes a fair value rate base ("FVRB") of \$3,079,513 which is its original cost rate base, and a 10.50 percent rate of return on the FVRB.

**Q. Please summarize Staff's recommendations.**

A. Staff recommends rates that would increase operating revenue by \$193,122 to produce operating revenue of \$367,449 resulting in operating income of \$196,630, or a 110.78 percent increase over adjusted test year revenue of \$174,327. Staff recommends a FVRB of \$2,048,228, and a 9.60 percent rate of return on the FVRB.

**Q. Please summarize the rate base adjustments addressed in your testimony.**

A. My testimony addresses the following issues:

Plant in Service – These adjustments decrease rate base by \$961,228.

Accumulated Depreciation – This adjustment decreases rate base by \$68,927.

1        Contributions in Aid of Construction ("CIAC") – This adjustment increases rate base by  
2        \$11,129.

3        Working Capital – This adjustment decreases rate base by \$12,259.

4  
5        **Q.     Please summarize the operating revenue and expense adjustments addressed in your**  
6        **testimony.**

7        A.     My testimony addresses the following issues:

8        Chemicals Expense – This adjustment decreases expenses by \$530.

9        Outside Services Expense – This adjustment decreases expenses by \$8,202.

10       Water Testing Expense – This adjustment decreases expenses by \$6,107.

11       Miscellaneous Expense – This adjustment decreases expenses by \$20,500.

12       Depreciation Expense – This adjustment decreases expenses by \$43,132.

13       Property Tax Expense – This adjustment decreases expenses by \$2,933.

14  
15       **Rate Base**

16       **Rate Base Summary**

17       **Q.     Please review the Company's proposed rate base.**

18       A.     The Company is proposing a FVRB of \$3,079,513 as shown on Schedule JMM-W2.

19  
20       **Q.     Is Staff recommending any changes to the Company's proposed rate base?**

21       A.     Yes.   Staff recommends a FVRB of \$2,048,228 as shown on Schedule JMM-W2, a  
22       reduction of \$1,031,285 from the Company's proposed FVRB.

23  
24       **Q.     How many rate base adjustments is Staff recommending?**

25       A.     Staff recommends four adjustments to rate base as shown on Schedules JMM-W2 and  
26       JMM-W3. Each adjustment described below is made to the FVRB.

**Rate Base Adjustment No. 1 – Plant in Service**

**Q. What is the Company proposing for account 304, Structures and Improvements?**

A. The Company is proposing costs of \$109,250. See Company Schedule B-2 page 4b.

**Q. Please explain the results of Staff's analysis of account 304, Structures and Improvements.**

A. Staff examined invoices and the line item detail schedule by plant account provided by the Company, as requested by Staff. The Company's general ledger failed to provide detailed transactions identifying the amount and description of individual assets composing the account balance. Staff's analysis of the documentation and explanations provided by the Company through Staff's data requests concluded that \$23,548 in perimeter wall water tank fencing cost was incorrectly classified to account 330, distribution and reservoirs. This amount was reclassified to account 304, structures and improvements, and confirmed by the Company in response to Staff's third data request. Staff concluded that the \$23,548 perimeter flood wall around the water pump house and storage tanks, were necessary, and used and useful in providing water utility service.

Staff disallowed amounts for \$34,178, \$13,278 and \$12,345, asserted by the Company to be water utility related fencing costs. Staff disallowed these amounts for lack of supporting documentation providing evidence that the fencing costs were necessary, and used and useful in providing water utility service. These costs were considered by Staff to be part of the general development of the project contributing to decorative, park-setting enhancements, and not necessary water utility costs to be incurred by utility customers.

1 **Q. What is Staff's recommendation for account 304, Structures and Improvements?**

2 A. Staff is recommending an increase due to the reclassification of \$23,548 to structures and  
3 improvements, and a decrease of \$59,800 due to the disallowance in unsubstantiated  
4 fencing costs deemed not necessary nor used and useful as a cost of water utility service,  
5 for a net decrease to the account of \$36,252. Staff's resulting recommended account  
6 balance for structures and improvements is \$72,998. Staff's adjustments are shown on  
7 Schedule JMM-W4.  
8

9 **Q. What is the Company proposing for account 307, Wells and Springs?**

10 A. The Company is proposing costs of \$2,233,833. See Company Schedule B-2 page 4b.  
11

12 **Q. Please explain the results of Staff's analysis of account 307, Wells and Springs.**

13 A. Staff examined invoices and the line item detail schedule by plant account provided by the  
14 Company, as requested by Staff. Staff's analysis of the documentation and explanations  
15 provided by the Company through Staff's data requests concluded the following:

- 16 1. Staff decreased costs posted to Bob Beeman Drilling Company by \$6,697, from  
17 \$561,850 to \$555,153, to reflect sales invoice number 14407060 costs of \$538,798 and  
18 sales tax expense adjustment of \$16,355, as confirmed in the Company's response to  
19 Staff's third data request.
- 20 2. Staff removed \$133,525 posted to Bob Beeman Drilling Company invoice number  
21 19402860, double counted and included in account 311, pumping equipment, as  
22 confirmed in the Company's response to Staff's third data request.
- 23 3. Staff removed \$2,500 posted as Steve Holmes Construction perimeter fencing cost for  
24 deep well number 3, double counted and included in account 304, structures and  
25 improvements at \$2,912, as confirmed by the Company's response to Staff's third data  
26 request.

- 1           4. Staff removed \$19,340 posted as sales tax expense to deep well number 3, which was  
2           double counted and included as sales tax in Bob Beeman Drilling Company costs  
3           posted in item 1 above, and to account 311, pumping equipment, invoice number  
4           19402860, as confirmed by the Company's response to Staff's third data request.  
5           5. Staff disallowed \$736,583 classified by the Company as costs incurred for deep well  
6           number 4, which was not in service nor used and useful during the test year.

7  
8   **Q.    What is Staff's recommendation for account 307, Wells and Springs?**

9   A.   Staff is recommending a decrease of \$898,645, resulting in a recommended account  
10   balance of \$1,335,508.

11  
12   **Q.    What is the Company proposing for account 311, Pumping Equipment?**

13   A.   The Company is proposing costs of \$161,494. See Company Schedule B-2 page 4b.  
14

15   **Q.    Please explain the results of Staff's analysis of account 311, Pumping Equipment.**

16   A.   Staff's analysis of the documentation and explanations provided by the Company through  
17   Staff's data requests concluded that the sales tax included in invoice number 19402860 for  
18   Bob Beeman Drilling Company was incorrectly stated. The Company confirmed, in its  
19   response to Staff's third data request, that the invoice amount and sales tax should be  
20   \$135,989 and \$2,984 respectively, for a transaction total of \$138,973. The amount posted  
21   to the general ledger was \$141,756. Thus, Staff had to make a downward adjustment of  
22   \$2,783.

23  
24   **Q.    What is Staff's recommendation for account 311, Pumping Equipment?**

25   A.   Staff is recommending a decrease of \$2,783, from \$161,494 to \$158,711.

1 **Q. What is the Company proposing for account 330, Distribution Reservoirs and**  
2 **Standpipes?**

3 A. The Company is proposing costs of \$345,000. See Company Schedule B-2 page 4b.  
4

5 **Q. Please explain the results of Staff's analysis of account 330, Distribution Reservoirs**  
6 **and Standpipes.**

7 A. Staff's analysis of the documentation and explanations provided by the Company through  
8 Staff's data requests concluded that costs of \$23,548 for perimeter wall water tank fencing  
9 was incorrectly included in account 330, distribution reservoirs and standpipes, and should  
10 be reclassified to account 304, structures and improvements. This reclassification was  
11 confirmed by the Company's response to Staff's third data request.  
12

13 **Q. What is Staff's recommendation for account 330, Distribution Reservoirs and**  
14 **Standpipes?**

15 A. Staff is recommending a decrease of \$23,548, resulting in a recommended account  
16 balance for distribution reservoirs and standpipes of \$321,452.  
17

18 **Rate Base Adjustment No. 2 – Accumulated Depreciation.**

19 **Q. What is the Company proposing for Accumulated Depreciation?**

20 A. The Company is proposing \$58,465 for accumulated depreciation. See Company  
21 Schedule B-2 page 4b.  
22

23 **Q. Please explain the results of Staff's analysis of Accumulated Depreciation.**

24 A. Staff's analysis of the exhibits and schedules, documentation and explanations provided  
25 by the Company concluded that the Company used an in-service date for all plant assets  
26 that corresponded to the date the Company obtained its Certificate of Convenience and

1 Necessity ("CC&N"). However, in the instant case, the owners had placed in service all  
2 water utility plant prior to obtaining a CC&N, and were providing service to customers  
3 prior to the in-service date used by the Company in this rate application, which is the grant  
4 date of their CC&N and the rate application test year, 2005.

5  
6 In Staff's review of the line item detail schedule by plant account and invoices provided  
7 by the Company, material amounts included in the schedule did not have transaction dates  
8 or invoices associated with the costs. However, it is clear from the documentation  
9 provided that all water utility plant assets were providing service by the end of 2004.  
10 Therefore, Staff is recommending 2004 as the in-service date of all water utility plant  
11 assets, instead of 2005 as proposed by the Company.

12  
13 In review of Company witness Mr. Bourassa's Schedule B-2, page 4b testimony, the  
14 Company used an in-service date of 2005 and a half year convention in computing  
15 depreciation expense for the first year, which translates into an accumulated depreciation  
16 total for the test year equal to the half year of depreciation expense. Since Staff is  
17 recommending 2004 as the in-service date of all water utility plant assets, Staff's  
18 accumulated depreciation will consist of half year depreciation, using the half year  
19 convention, for 2004, and a full year of depreciation for 2005.

20  
21 **Q. What is Staff's recommendation for the Accumulated Depreciation account?**

22 A. Staff is recommending an increase of \$68,927, resulting in a recommended account  
23 balance for accumulated depreciation of \$127,392. Staff's adjustment is shown on  
24 schedule JMM-W5.



**Rate Base Adjustment No. 3 – Advances in Aid of Construction (“AIAC”) reclassified as CIAC.**

**Q. What is the Company proposing for AIAC?**

A. The Company is proposing \$294,745. See Company Schedule B-2 page 1.

**Q. Please explain the results of Staff’s analysis of AIAC.**

A. While inquiring of the nature of the assets included by the Company in AIAC and requesting supporting line extension agreements approved by the Commission for the advances, the Company’s response to Staff’s second data request stated that the Company’s proposed AIAC amount was in error and should be reclassified as CIAC. Staff accepts the Company’s proposal to reclassify the AIAC amount to CIAC.

**Q. What is Staff’s recommendation for AIAC and CIAC?**

A. Staff is recommending decreasing AIAC by \$294,745 and increasing CIAC by \$294,745. Additionally, Staff is recommending amortization of CIAC in 2005 of \$11,129, for a net CIAC of \$283,616. Staff’s adjustments are shown on schedule JMM-W6.

**Rate Base Adjustment No. 4 – Working Capital**

**Q. What is the Company proposing for the Allowance of Cash Working Capital?**

A. The Company is proposing a \$12,259 allowance for cash working capital based on a simple income statement approach which takes 1/8 of the amount presented on the income statement for operations and maintenance expense and 1/24 of the amount for pumping power. This methodology is known as the formula method. See Company Schedule B-5 page 1.

1 **Q. What recommendation is Staff making?**

2 A. Staff is recommending that the \$12,259 allowance for cash working capital be disallowed,  
3 as a utility of this size should have presented a lead-lag study to establish an estimate of  
4 cash working capital. As a result, Staff is recommending a zero balance for cash working  
5 capital.

6

7 **Q. Why is Staff recommending disallowance of this amount?**

8 A Staff typically only allows cash working capital allowances calculated by the formula  
9 method for small class D and E utilities. The formula method always produces a positive  
10 cash working capital need. Utilities classified as A, B, or C are much larger and Staff  
11 believes that the formula method does not accurately reflect the related cash working  
12 capital needs. Typically Staff finds that proper lead/lag studies usually produce a negative  
13 cash working capital need. Staff recommends disallowance of any cash working capital  
14 allowance. Staff's adjustment is shown on schedule JMM-W7.

15

16 **Operating Income**

17 **Operating Income Summary**

18 **Q. Did Staff make any adjustments to operating revenue?**

19 A. No, however, Staff did accept the Company's projected customer growth of 350  
20 customers.

21

22 **Q. Why is Staff accepting these projected numbers?**

23 A. The numbers submitted by the Company are known projects currently under development  
24 and assume that the homes will be built. The Company has provided these numbers in an  
25 effort to minimize the impact on the rates and is not intended to set any precedent for this  
26 or any other utility regulated by the Commission.

1     **Q.     Is this unusual?**

2     A.     Yes, however, noting the history of the Company, which was operating without a valid  
3           CC&N, Staff feels that the rate payer should not have to pay for the Company's mistakes.

4  
5     **Q.     What happens if all the homes are not built?**

6     A.     The Company could be under earning, and as a result will have to reduce expenses or file  
7           another rate case. In this particular case, the Company is assuming the risk that the homes  
8           may not be built.

9  
10    **Q.     What are the results of Staff's analysis of test year revenues, expenses, and operating**  
11       **income?**

12    A.     Staff's analysis resulted in adjusted test year operating revenues of \$174,327, operating  
13           expenses of \$170,819 and operating income of \$3,508 as shown on Schedules JMM-W8  
14           and JMM-W9. Staff made six adjustments to operating expenses.

15  
16    **Operating Expense Adjustment No. 1 – Chemical Expense.**

17    **Q.     Please explain Staff's Operating Expense Adjustment No. 1.**

18    A.     Staff's adjustment decreased chemicals expense by \$530, from \$530 to \$0. Staff  
19           disallowed, as an unnecessary cost of water utility service, dye used in the community  
20           lake. Staff's adjustment is shown on Schedule JMM-W10.

21  
22    **Operating Expense Adjustment No. 2 – Outside Service Expense.**

23    **Q.     Please explain Staff's Operating Expense Adjustment No. 2.**

24    A.     Staff's adjustment decreased outside services expense by \$8,202, from \$20,630 to  
25           \$12,428. Staff's adjustment is shown on Schedule JMM-W11.

1 **Q. Why is Staff making this recommendation?**

2 A. Staff is disallowing the following expenses:

- 3 1. Staff is disallowing \$2,622 in expense for the Kimley Horn traffic update study. This  
4 expense is not associated with the day to day operations and water utility cost of  
5 service, and was confirmed in the Company's response to Staff's second data request.  
6 2. Staff is disallowing \$5,580 in legal expense considered by Staff to be a regulatory  
7 commission expense, covered within the \$50,000 regulatory commission expense  
8 costs the Company is claiming in this application.  
9

10 **Operating Expense Adjustment No. 3 – Water Testing Expense.**

11 **Q. Please explain Staff's Operating Expense Adjustment No. 3.**

12 A. Staff's adjustment decreased water testing expense by \$6,107, from \$8,553 to \$2,446, as  
13 shown on Schedule JMM-W12. An explanation of this adjustment can be found on page 7  
14 of the Engineering Report of Staff witness Mr. Jian W. Liu's direct testimony.  
15

16 **Operating Expense Adjustment No. 4 – Miscellaneous Operating Expense**

17 **Q. Please explain Staff's Operating Expense Adjustment No. 4.**

18 A. Staff's adjustment decreased miscellaneous expense by \$20,500, from \$30,722 to \$10,222.  
19 Staff's adjustment is shown on Schedule JMM-W13.  
20

21 **Q. Why is Staff making this recommendation?**

22 A. Staff is disallowing the following miscellaneous expenses:

- 23 1. Staff disallowed a \$20,000 Commission imposed penalty on the owners for operating  
24 utility water and wastewater services without a CC&N. This penalty should not be  
25 endured by utility customers, and is not a recurring cost of service.

1           2. Staff disallowed \$500 in expense for a physical determination availability application  
2           relating to the Company's CC&N extension application. The application was signed  
3           and dated by the owner on 4/18/2006; however, the Company posted the expense on  
4           12/28/2005. Based on the documentation provided by the Company the expense is  
5           considered outside the test year and not a recurring cost of service.  
6

7           **Operating Expense Adjustment No. 5 – Depreciation Expense**

8           **Q.     Please explain Staff's Operating Expense Adjustment No. 5.**

9           A.     Staff's adjustment decreases depreciation expense by \$43,132, from \$116,931 to \$73,799.  
10

11          **Q.     Why does this amount differ from what the Company proposed depreciation**  
12          **expense?**

13          A.     Staff's recalculation of depreciation expense is based upon Staff's recommended  
14          depreciation rates, and Staff's adjustments to rate base and the in-service date for plant  
15          assets. Since the Company was operating water utility service prior to the test year 2005,  
16          and all water utility plant was in service no later than 2004, Staff is using 2004 as the in-  
17          service date for all plant assets. This results in half year depreciation, using the half year  
18          convention, in 2004, and full year depreciation in the 2005 test year. This is shown on  
19          Schedules JMM-W14.  
20

21          **Operating Expense Adjustment No. 6 – Property Tax Expense**

22          **Q.     Please explain Staff's Operating Expense Adjustment No. 6.**

23          A.     Staff's adjustment decreases property tax \$2,933, from \$13,026 to \$10,093. Staff's  
24          calculation is based upon Staff's adjusted test year and recommended revenues. Please  
25          see Schedule JMM-15 for Staff's calculation.

**REVENUE REQUIREMENT**

**Q. What does the Company propose for an increase in operating revenue?**

A. The Company proposes increasing operating revenues by \$401,245 from \$174,327 to \$575,572.

**Q. What does Staff recommend for an increase in operating revenues?**

A. Staff recommends a \$193,122 increase in operating revenues, from \$174,327 to \$367,449.

**Q. How did Staff determine its recommended operating revenue?**

A. Staff determined a 9.60 percent return on FVRB is appropriate. Therefore, a rate of return of 9.60 percent on Staff's recommended FVRB of \$2,048,228 produces the required operating income of \$196,630. Staff then determined that the revenue requirement needs to be \$367,449 in order to obtain the recommended rate of return. For further information on how the 9.60 percent cost of capital was calculated please see the testimony of Staff witness Steve Irvine.

**Q. Is there anything unusual about the way Staff calculated the revenue requirement?**

A. Yes, as mentioned earlier in my testimony Staff accepted the Company's adjustment to test year revenues by including estimated usage of 350 homes that are currently under development. Therefore, the 350 homes account for \$173,376 of the total \$365,792 in metered water revenue, or 47.40 percent of total metered water revenue. The \$173,376 was calculated as follows: 350 customers x 12 months x \$41.28 Staff's Median Usage from Schedule JMM-W17 = \$173,376. The remainder is calculated from the Company's current customers.

1     **Q.     Why has Staff calculated the revenue requirement in this manner?**

2     A.     Staff calculated the revenue requirement in this manner based on the facts and issues that  
3           were reviewed in Decision No. 67446, which directly affects the current water and  
4           wastewater customers of the Company.

5  
6           As a result of operating a water/wastewater system without a valid CC&N, the Company  
7           was assessed a penalty for failure to comply with the Rules and Regulations of the  
8           Arizona Corporation Commission. In the Decision, it was noted that "The Company's  
9           actions, as detailed in the record of this proceeding, constitute one of the most egregious  
10          examples of unauthorized preemptory operations ever confronted by the Commission.  
11          Therefore, as a condition of approval of the requested CC&N, Utility Source shall pay  
12          \$20,000, based on a penalty of \$100 for each of its approximately 200 customers that were  
13          connected to the Company's system prior to issuance of a CC&N." See Decision No.  
14          67446 page 19.

15  
16          In this Decision it was also noted that "it appears that the developer induced customers to  
17          purchase homes with water and wastewater rates that will be insufficient to support the  
18          construction and long-term operations of water and wastewater systems for planned  
19          development. Although we do not ascribe any malicious intent to developer's actions, the  
20          net effect of those actions cannot help but lead to extremely unhappy customers who may  
21          be left to pay for the utility systems at costs that significantly exceed the rates they  
22          expected to pay when they purchased their homes." See Decision No. 67446 page 11.

23  
24          As a result of the artificially low unapproved rates, the Company in the Order was  
25          required to "Notify all existing and future customers that: the water and wastewater rates  
26          currently in effect were not approved by the Commission because the Company

1 commenced operations without the Commission's authorization; the Company is required  
2 to file a rate application by May 1, 2006 that may result in higher rates." See Decision  
3 No. 67446 page 24.

4  
5 As you can see from the excerpts in the previous case, the Commission was critical of the  
6 Company not having a valid CC&N and operating with rates that were not approved by  
7 the Commission. In addition, the Commission was concerned about the rate impact on  
8 current and future customers.

9  
10 In an effort to lessen the rate impact on customers, the Company in its rate application  
11 proposed including 350 homes that are currently being built. Staff accepted the  
12 Company's proposal and has included these 350 customers in the rate design in order to  
13 ameliorate the rate shock that current and future customers will experience. Also, since  
14 Staff accepted the Company's revenue adjustment to test year revenues, it is only logical  
15 to include these 350 customers in deriving the revenue requirement. Again this is a unique  
16 case, and should not be used as a precedent for any other utility regulated by the  
17 Commission.

18  
19 **Q. What would happen if only the current customers were used to derive the revenue**  
20 **requirement?**

21 **A.** Staff's recommendations would be inadequate and Staff would have to recommend further  
22 increases in the rates imposed on the current and future customers.



1 **RATE DESIGN**

2 **Q. Have you prepared a schedule summarizing the present, Company proposed, and**  
3 **Staff recommended rates and service charges?**

4 A. Yes. A summary of the present, Company proposed, and Staff recommended rates and  
5 service charges are provided on Schedule JMM-W16.

6  
7 **Q. Would you please summarize the present rate design?**

8 A. The present monthly minimum charges by meter size are as follows: 3/4-inch \$6.48; 1-  
9 inch \$8.02; 1 1/2-inch \$9.62; 2-inch \$14.00; 4-inch \$58.00; and 6-inch \$89.80. The present  
10 commodity rate is \$2.83 per thousand gallons from zero gallon up to 5,000 gallons, \$3.32  
11 for usage between 5,001 and 15,000 gallons, and \$4.71 for any usage over 15,001 gallons.  
12 These rates apply to residential customers only. Multi-family, mobile home, and  
13 commercial customers are charged a flat rate per 1,000 gallons of \$2.97; while standpipe  
14 and construction water customers are charged a flat rate per 1,000 gallons of \$6.00.

15  
16 **Q. Would you please summarize the Company's proposed rate design?**

17 A. The Company's proposed monthly minimum charges by meter size are as follows: 3/4-  
18 inch \$24.30; 1-inch \$40.50; 1 1/2-inch \$81.00; 2-inch \$129.60; 3-inch \$259.20; 4-inch  
19 \$405.00; 6-inch \$810.00. The present commodity rate is \$8.82 per thousand gallons from  
20 zero gallon up to 5,000 gallons, \$10.35 for usage between 5,001 and 15,000 gallons, and  
21 \$14.69 for any usage over 15,001 gallons. These rates apply to residential customers only.  
22 Multi-family, mobile home, and commercial customers are charged a flat rate per 1,000  
23 gallons of \$9.26; while standpipe and construction water customers are charged a flat rate  
24 per 1,000 gallons of \$10.35.

1     **Q.     Would you please summarize Staff's recommended rate design?**

2     A.     Staff's recommended monthly minimum charges for both commercial and residential  
3           customers by meter size are as follows: 5/8-inch \$18.50; 3/4-inch \$18.50; 1-inch \$46.50; 1  
4           ½-inch \$92.50; 2-inch \$148.00; 3-inch \$296.00; 4-inch \$462.50; 6-inch \$925.00. Zero  
5           gallons are included in the monthly minimum charge. Staff recommends an inverted tier  
6           rate design that consists of three tiers for the residential 5/8-inch and 3/4-inch meter  
7           customers and two tiers for all others excluding irrigation, standpipe/bulk water, and  
8           construction water users. The additional tier for the residential 5/8-inch and 3/4-inch  
9           meters is for the first 4,000 gallons. Staff's rate design recognizes the growing importance  
10          of managing water as a finite resource and its increasing cost. Efficiency in water use is  
11          encouraged by producing a higher customer bill with increased consumption or use of a  
12          larger meter. For irrigation, Staff recommends a charge per 1,000 gallons of \$9.26, and  
13          for standpipe/bulk water, and construction water users, Staff recommends a charge per  
14          1,000 gallons of usage of \$10.35. A comparison of the current rates, the Company's  
15          proposed rates, and Staff's recommended rates are presented on Schedule JMM-W16.

16  
17     **Q.     Why is Staff not recommending a flat rate for multi-family mobile home, and**  
18           **Commercial Customers?**

19     A.     In the prior Decision No. 67446, both the Company and Staff proposed and recommended  
20           metered tiered rates for both residential and commercial customer and not a flat rate. Staff  
21           is uncertain why the order contained a flat rate amount of \$2.97 per 1,000 gallons for  
22           multi-family mobile home, and commercial users. Staff believes that it is more equitable  
23           to include multi-family mobile home and commercial customers in metered residential and  
24           commercial tiered rates and not as a separate flat rate category.

1 **Q. What is the rate impact on a 3/4-inch meter residential customer using a median**  
2 **consumption of 4,500 gallons?**

3 A. The median usage of residential 3/4-inch meter customers is 4,500 gallons per month.  
4 The 3/4-inch meter residential customer would experience a \$44.78 or 223.02 percent  
5 increase in their monthly bill from \$19.22 to \$63.99 under the Company's proposed rates  
6 and a \$22.07 or 114.83 percent increase in their monthly bill from \$19.22 to \$41.28 under  
7 Staff's recommended rates. A typical bill analysis is provided on Schedule JMM-W17.  
8

9 **Q. What is the basis for Staff's recommendation for the respective commodity break-**  
10 **over points?**

11 A. The use of the recommended break-over points by Staff serves two purposes. First, it  
12 supports the state-wide effort to improve water-use efficiency. Customers are rewarded  
13 monetarily by restricting their use to these levels which reflects efficient water use.  
14 Second, a desirable characteristic of Staff's rate design is that it effectively serves to  
15 provide affordable water to customers willing to limit consumption to their basic needs.  
16 Providing affordable water in limited amounts is appropriate because water is the only  
17 commodity that is necessary for sustaining life.  
18

19 **Q. What water system service lines, meter installation charges, and service charges does**  
20 **Staff recommend?**

21 A. A comparison of the current charges for water system service lines, metered installation  
22 charges, and service charges; the Company's proposed changes, and Staff's recommended  
23 changes are presented on Schedules JMM-W16. These charges are within Staff's  
24 experience of what are reasonable and customary charges.  
25

1     **Q.     Does this conclude your direct testimony?**

2     **A.     Yes, it does.**

**REVENUE REQUIREMENT**

LINE NO.	DESCRIPTION	(A) COMPANY ORIGINAL COST	(C) COMPANY FAIR VALUE	(D) STAFF ORIGINAL COST	(E) STAFF FAIR COST
1	Adjusted Rate Base	\$ 3,079,513	\$ 3,079,513	\$ 2,048,228	\$ 2,048,228
2	Adjusted Operating Income (Loss)	\$ (77,896)	\$ (77,896)	\$ 3,508	\$ 3,508
3	Current Rate of Return (L2 / L1)	-2.53%	-2.53%	0.17%	0.17%
4	Required Rate of Return	10.50%	10.50%	9.60%	9.60%
5	Required Operating Income (L4 * L1)	\$ 323,349	\$ 323,349	\$ 196,630	\$ 196,630
6	Operating Income Deficiency (L5 - L2)	\$ 401,245	\$ 401,245	\$ 193,122	\$ 193,122
7	Gross Revenue Conversion Factor	1.0000	1.0000	1.0000	1.0000
8	Required Revenue Increase (L7 * L6)	\$ 401,245	\$ 401,245	\$ 193,122	\$ 193,122
9	Adjusted Test Year Revenue	\$ 174,327	\$ 174,327	\$ 174,327	\$ 174,327
10	Proposed Annual Revenue (L8 + L9)	\$ 575,572	\$ 575,572	\$ 367,449	\$ 367,449
11	Required Increase in Revenue (%)	230.17%	230.17%	110.78%	110.78%
12	Rate of Return on Rate Base (%)	10.50%	10.50%	9.60%	9.60%

References:

Column (A): Company Schedule B-1  
Column (B): Company Schedule B-1  
Column (C): Staff Schedules JMM-W2, JMM-W8  
Column (D): Staff Schedules JMM-W2, JMM-W8

UTILITY SOURCE, LLC. - Water Division  
Docket No. WS-04235A-06-0303  
Test Year Ended December 31, 2005

Schedule JMM-W2

**RATE BASE - ORIGINAL COST**

LINE NO.	(A) COMPANY AS FILED	(B) STAFF ADJUSTMENTS	REF	(C) STAFF AS ADJUSTED
1	Plant in Service	\$ 3,420,464	\$ (961,228) ADJ # 1	\$ 2,459,236
2	Less: Accumulated Depreciation	58,465	68,927 ADJ # 2	127,392
3	Net Plant in Service	<u>\$ 3,361,999</u>	<u>\$ (1,030,155)</u>	<u>\$ 2,331,844</u>
<u>LESS:</u>				
4	Contributions in Aid of Construction (CIAC)	\$ -	\$ 294,745 ADJ # 3	\$ 294,745
5	Less: Accumulated Amortization	-	11,129	11,129
6	Net CIAC	-	283,616	283,616
7	Advances in Aid of Construction (AIAC)	294,745	(294,745) ADJ # 3	-
8	Customer Deposits	-	-	-
9	Deferred Income Tax Credits	-	-	-
<u>ADD:</u>				
10	Unamortized Finance Charges	-	-	-
11	Deferred Tax Assets	-	-	-
12	Working Capital	12,259	(12,259) ADJ # 4	-
13	<b>Original Cost Rate Base</b>	<u>\$ 3,079,513</u>	<u>\$ (1,031,285)</u>	<u>\$ 2,048,228</u>

References:

Column (A), Company Schedule B-1  
Column (B): Schedule JMM-W3  
Column (C): Column (A) + Column (B)

**SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS**

LINE NO.	ACCT. NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) PLANT IN SERVICE ADJ. NO. 1	(C) ACCUM DEPREC ADJ. NO. 2	(D) AIAC TO CIAC ADJ. NO. 3	(E) WORKING CAPITAL ADJ. NO. 4	(F) STAFF ADJUSTED
<u>PLANT IN SERVICE:</u>								
1			\$	\$	\$	\$	\$	
2	301	Organization	-	-	-	-	-	-
3	302	Franchises	-	-	-	-	-	-
4	303	Land and Land Rights	210,000	-	-	-	-	210,000
5	304	Structures & Improvements	109,250	(36,252)	-	-	-	72,998
6	305	Collecting & Impounding Reservoirs	-	-	-	-	-	-
7	306	Lakes, Rivers, Other Intakes	-	-	-	-	-	-
8	307	Wells and Springs	-	(898,645)	-	-	-	1,335,238
9	308	Infiltration Galleries and Tunnels	2,233,883	-	-	-	-	-
10	309	Supply Mains	-	-	-	-	-	-
11	310	Power Generation Equipment	87,400	-	-	-	-	87,400
12	311	Pumping Equipment	161,494	(2,783)	-	-	-	158,711
13	320	Water Treatment Plant	5,487	-	-	-	-	5,487
14	330	Distribution Reservoirs & Standpipes	345,000	(23,548)	-	-	-	321,452
15	331	Transmission & Distribution Mains	147,200	-	-	-	-	147,200
16	333	Services	86,250	-	-	-	-	86,250
17	334	Meters	-	-	-	-	-	-
18	335	Hydrants	34,500	-	-	-	-	34,500
19	336	Backflow Prevention Devices	-	-	-	-	-	-
20	339	Other Plant & Misc. Equipment	-	-	-	-	-	-
21	340	Office Furniture & Equipment	-	-	-	-	-	-
22	341	Transportation Equipment	-	-	-	-	-	-
23	342	Stores Equipment	-	-	-	-	-	-
24	343	Tools, Ship & Garage Equipment	-	-	-	-	-	-
25	344	Laboratory Equipment	-	-	-	-	-	-
26	345	Power Operated Equipment	-	-	-	-	-	-
27	346	Communication Equipment	-	-	-	-	-	-
28	347	Miscellaneous Equipment	-	-	-	-	-	-
29	348	Other Tangible Plant	-	-	-	-	-	-
30			3,420,464	(961,228)	-	-	-	2,459,236
31	Add:		-	-	-	-	-	-
32			-	-	-	-	-	-
33			-	-	-	-	-	-
34			-	-	-	-	-	-
35	Less:		-	-	-	-	-	-
36			-	-	-	-	-	-
37			-	-	-	-	-	-
38			-	-	-	-	-	-
39	Total Plant in Service		\$ 3,420,464	\$ (961,228)	\$ -	\$ -	\$ -	\$ 2,459,236
40	Less: Accumulated Depreciation		58,465	-	68,927	-	-	127,392
41			-	-	-	-	-	-
42	Net Plant in Service (L59 - L 60)		\$ 3,361,999	\$ (961,228)	\$ (68,927)	\$ -	\$ -	\$ 2,331,844
43	LESS:		-	-	-	-	-	-
44	Contributions in Aid of Construction (CIAC)		-	-	-	-	-	-
45	Less: Accumulated Amortization		-	-	-	-	-	-
46			-	-	-	-	-	-
47	Net CIAC (L25 - L26)		-	-	-	-	-	-
48	Advances in Aid of Construction (AIAC)		294,745	-	-	294,745	-	294,745
49	Customer Meter Deposits		-	-	-	11,129	-	11,129
50	Deferred Income Tax Credits		-	-	-	283,616	-	283,616
51			-	-	-	(294,745)	-	-
52	ADD:		-	-	-	-	-	-
53	Unamortized Finance Charges		-	-	-	-	-	-
54	Deferred Tax Assets		-	-	-	-	-	-
55	Working Capital		12,259	-	-	-	(12,259)	-
56			-	-	-	-	-	-
57	Original Cost Rate Base		\$ 3,079,513	\$ (961,228)	\$ (68,927)	\$ 11,129	\$ (12,259)	\$ 2,048,228

ADJ. #	References:
1	Schedule JMM-W4
2	Schedule JMM-W5
3	Schedule JMM-W6
4	Schedule JMM-W7

**RATE BASE ADJUSTMENT NO. 1 - PLANT ADJUSTMENTS**

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Structures & Improvements (Account 304)	\$ 109,250	\$ (36,252)	\$ 72,998
2	Wells and Springs (Account 307)	2,233,883	(898,645)	1,335,238
3	Pumping Equipment (Account 311)	161,494	(2,783)	158,711
4	Distribution Reservoirs and Standpipes (330)	345,000	(23,548)	321,452
5	Totals	<u>\$ 2,849,627</u>	<u>\$ (961,228)</u>	<u>\$ 1,888,399</u>
<u>Staff's Calculation of Structures &amp; Improvements (Account 304)</u>				
6	Reclassify perimeter wall fencing cost from Distributions and Reservoirs (Account 330)	\$ 23,548		
Disallowance of decorative fencing:				
7	Steve Holmes building Company	\$ (34,178)		
8	Steve Holmes building Company	\$ (13,278)		
9	Steve Holmes building Company	\$ (12,345)		
10		<u>\$ (36,252)</u>		
<u>Staff's Calculation of Wells and Springs (Account 307)</u>				
11	Corrected error entered for Bob Beeman Drilling Co. inv # 14407060 from \$561,850 to \$555,153	\$ (6,697)		
12	Removed \$133,525 in Bob Beeman Drilling cost double counted and included in #311 Pumping Equipment.	\$ (133,525)		
13	Removed \$2,500 Steve Holmes perimeter fencing cost well #3 double counted and already included in Structures & Improvements (Account 304)	\$ (2,500)		
14	Removed \$19,339.68 sales tax from well #3 already included in Bob Beeman entries in accounts #307 & #311.	\$ (19,340)		
15	Dissallowed \$736,583.00 Deep well 4 costs not used & usefull,	<u>\$ (736,583)</u>		
16	and outside of test year.	<u>\$ (898,645)</u>		
<u>Staff's Calculation of Pumping Equipment (Account 311)</u>				
17	Corrected error entered for Bob Beeman Drilling Co. inv # 19402860 from \$141,756 to \$138,973	<u>\$ (2,783)</u>		
<u>Staff's Calculation of Distribution Reservoirs and Standpipes (Account 330)</u>				
18	Reclassify perimeter wall fencing cost to Structures & Improvements (Account 304)	<u>\$ (23,548)</u>		

References:

Column A: Company Schedule B-1, Page 1  
Column B: Testimony, JMM, Schedule JMM-W3  
Column C: Column [A] + Column [B]



Utility Source, LLC - Water Division  
Docket No. WS-04235A-06-0303  
Test Year Ended December 31, 2005

## RATE BASE ADJUSTMENT NO. 2 - ACCUMULATED DEPRECIATION

LINE NO.	DESCRIPTION	[A]			[B]			[C]		
		COMPANY AS FILED			STAFF ADJUSTMENTS			STAFF AS ADJUSTED		
1	Accumulated Depreciation	\$	58,465	\$	68,927	\$	127,392			
		AT ENGINEER RECOMMENDED RATES			HALF YEAR DEP.			A.D.		
		Total Plant Staff Adjusted 12/31/2004								
2	301 Organization Cost	-	-	-	-	-	-	-	-	-
3	302 Franchise Cost	-	-	-	-	-	-	-	-	-
4	303 Land & Land Rights	210,000	-	-	-	-	210,000	-	-	-
5	304 Structures & Improvements	72,998	3.33%	1,215	1,215	-	72,998	2,431	3,646	-
6	307 Wells & Springs	1,335,238	3.33%	22,232	22,232	-	1,335,238	44,463	66,695	-
7	310 Power Generation Equipment	87,400	5.00%	2,185	2,185	-	87,400	4,370	6,555	-
8	311 Electric Pumping Equip.	158,711	12.50%	9,919	9,919	-	158,711	19,839	29,758	-
9	320 Water Treatment Equipment	5,487	3.33%	91	91	-	5,487	183	274	-
10	320.1 Water Treatment Plants	-	3.33%	-	-	-	-	-	-	-
11	320.2 Solution Chemicals Feeders	-	20.00%	-	-	-	-	-	-	-
12	330 Distribution Reservoirs	321,452	2.22%	3,568	3,568	-	321,452	7,136	10,704	-
13	330.1 Storage Tanks	-	2.22%	-	-	-	-	-	-	-
14	330.2 Pressure Tanks	-	5.00%	-	-	-	-	-	-	-
15	331 Transmission & Distribution-Mains	147,200	2.00%	1,472	1,472	-	147,200	2,944	4,416	-
16	333 Services	86,250	3.33%	1,436	1,436	-	86,250	2,872	4,308	-
17	334 Meters	-	8.33%	-	-	-	-	-	-	-
18	335 Hydrants	34,500	2.00%	345	345	-	34,500	690	1,035	-
19	336 Backflow Preventors	-	6.67%	-	-	-	-	-	-	-
20	339 Other Plant and Miscellaneous Equipment	-	6.67%	-	-	-	-	-	-	-
21	340 Office Furniture & Equip.	-	6.67%	-	-	-	-	-	-	-
22	341 Transportation Equip.	-	20.00%	-	-	-	-	-	-	-
23	343 Tools and Work Equipment	-	5.00%	-	-	-	-	-	-	-
24	344 Laboratory Equipment	-	10.00%	-	-	-	-	-	-	-
25	345 Power Operated Equipment	-	5.00%	-	-	-	-	-	-	-
26	346 Communications Equipment	-	10.00%	-	-	-	-	-	-	-
27	347 Miscellaneous Equipment	-	10.00%	-	-	-	-	-	-	-
28	348 Other Tangible Plant	-	-	-	-	-	-	-	-	-
29	350.1 OFI Engineering and Planning	-	3.33%	-	-	-	-	-	-	-
30	350.2 OFI Well Site	-	3.33%	-	-	-	-	-	-	-
31	105 Materials and Supplies Inventory	-	-	-	-	-	-	-	-	-
	Totals	2,459,236	-	42,464	42,464	-	2,459,236	84,928	127,392	-
		CIAC Composite Rate			3.7759%			Non Depreciable Plant		
								2,249,236		

## References:

Column A: Company Schedule B-1, Page 1  
Column B: Testimony, JMM, Schedule JMM-W3  
Column C: Column [A] + Column [B]

Utility Source, LLC. - Water Division  
Docket No. WS-04235A-06-0303  
Test Year Ended December 31, 2005

Schedule JMM-W6

**RATE BASE ADJUSTMENT NO. 3 - RECLASSIFICATION OF AIAC TO CIAC**

LINE NO.	DESCRIPTION	[A]		[B]		[C]	
		COMPANY AS FILED		STAFF ADJUSTMENTS		STAFF AS ADJUSTED	
1	Advances in Aid of Construction (AIAC)	\$	294,745	\$	294,745	\$	-
2	Contributions in Aid of Construction (CIAC)	\$	-	\$	283,616	\$	283,616
<u>Staff's amortization of CIAC</u>							
3	Amortization of CIAC:			\$	294,745		
4	Composite amortization rate (see JMM-WW5):				3.7759%		
5	Amortized CIAC:			\$	11,129		
6	Net CIAC:			\$	283,616		

References:

Column A: Company Schedule B-1, Page 1  
Column B: Testimony, JMM, Schedule JMM-W3  
Column C: Column [A] + Column [B]

Utility Source, LLC. - Water Division  
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Schedule JMM-W7

**RATE BASE ADJUSTMENT NO. 4 - REMOVAL OF ALLOWANCE FOR CASH WORKING CAPITAL**

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Allowance for Cash Working Capital	\$ 12,259	\$ (12,259)	\$ -

References:

Column A: Company Schedule B-1, Page 1

Column B: Testimony, JMM, Schedule JMM-W3

Column C: Column [A] + Column [B]

**OPERATING INCOME STATEMENT - ADJUSTED TEST YEAR AND STAFF RECOMMENDED**

LINE NO.	DESCRIPTION	[A] COMPANY ADJUSTED TEST YEAR AS FILED	[B] STAFF TEST YEAR ADJUSTMENTS	[C] STAFF TEST YEAR AS ADJUSTED	[D] STAFF PROPOSED CHANGES	[E] STAFF RECOMMENDED
1	<u>REVENUES:</u>					
2	Metered Water Sales	\$ 172,670	\$ -	\$ 172,670	\$ 193,122	\$ 365,792
3	Water Sales - Unmetered	-	-	-	-	-
4	Other Operating Revenue	1,657	-	1,657	-	1,657
5	<b>Total Operating Revenues</b>	<u>\$ 174,327</u>	<u>\$ -</u>	<u>\$ 174,327</u>	<u>\$ 193,122</u>	<u>\$ 367,449</u>
	<u>OPERATING EXPENSES:</u>					
6	Salaries and Wages	\$ -	\$ -	\$ -	\$ -	\$ -
7	Purchased Water	-	-	-	-	-
8	Purchased Power	36,292	-	36,292	-	36,292
9	Chemicals	530	(530) Adj # 1	-	-	-
10	Repairs and Maintenance	8,747	-	8,747	-	8,747
11	Office Supplies and Expense	4,292	-	4,292	-	4,292
12	Outside Services	20,630	(8,202) Adj # 2	12,428	-	12,428
13	Water Testing	8,553	(6,107) Adj # 3	2,446	-	2,446
14	Rents	-	-	-	-	-
15	Transportation Expenses	-	-	-	-	-
16	Insurance - General Liability	-	-	-	-	-
17	Insurance - Health and Life	-	-	-	-	-
18	Regulatory Commisio Expense - Rate Case	12,500	-	12,500	-	12,500
19	Miscellaneous Expense	30,722	(20,500) Adj # 4	10,222	-	10,222
20	Depreciation Expense	116,931	(43,132) Adj # 5	73,799	-	73,799
21	Taxes Other Than Income	-	-	-	-	-
22	Property Taxes	13,026	(2,933) Adj # 6	10,093	-	10,093
23	Income Tax	-	-	-	-	-
26						
27	<b>Total Operating Expenses</b>	<u>\$ 252,223</u>	<u>\$ (81,404)</u>	<u>\$ 170,819</u>	<u>\$ -</u>	<u>\$ 170,819</u>
28	<b>Operating Income (Loss)</b>	<u>\$ (77,896)</u>	<u>\$ 81,404</u>	<u>\$ 3,508</u>	<u>\$ 193,122</u>	<u>\$ 196,630</u>

References:

Column (A): Company Schedule C-1  
Column (B): Schedule JMM-W9  
Column (C): Column (A) + Column (B)  
Column (D): Schedules JMM-1  
Column (E): Column (C) + Column (D)

SUMMARY OF OPERATING INCOME STATEMENT ADJUSTMENTS - TEST YEAR

LINE NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) CHEMICALS ADJ # 1	(C) OUTSIDE SERVICES ADJ # 2	(D) WATER TESTING ADJ # 3	(E) MISCELLANEOUS ADJ # 4	(F) DEPRECIATION ADJ # 5	(G) PROPERTY TAX ADJ # 6	(H) STAFF ADJUSTED
1	REVENUES:								
2	Metered Water Sales	\$ 172,670	-	-	-	-	-	-	172,670
3	Water Sales - Unmetered	-	-	-	-	-	-	-	-
4	Other Operating Revenue	1,657	-	-	-	-	-	-	1,657
5	Total Operating Revenues	\$ 174,327	-	-	-	-	-	-	174,327
	OPERATING EXPENSES:								
6	Salaries and Wages	\$ -	-	-	-	-	-	-	-
7	Purchased Water	-	-	-	-	-	-	-	-
8	Purchased Power	36,292	-	-	-	-	-	-	36,292
9	Chemicals	530	(530)	-	-	-	-	-	-
10	Repairs and Maintenance	8,747	-	-	-	-	-	-	8,747
11	Office Supplies and Expense	4,292	-	-	-	-	-	-	4,292
12	Outside Services	20,630	-	(8,202)	-	-	-	-	12,428
13	Water Testing	8,553	-	-	(6,107)	-	-	-	2,446
14	Rents	-	-	-	-	-	-	-	-
15	Transportation Expenses	-	-	-	-	-	-	-	-
16	Insurance - General Liability	-	-	-	-	-	-	-	-
17	Insurance - Health and Life	-	-	-	-	-	-	-	-
18	Regulatory Commission Expense - Rate Case	12,500	-	-	-	-	-	-	12,500
19	Miscellaneous Expense	30,722	-	-	-	(20,500)	-	-	10,222
20	Depreciation Expense	116,931	-	-	-	-	(43,132)	-	73,799
21	Taxes Other Than Income	-	-	-	-	-	-	-	-
22	Property Taxes	13,026	-	-	-	-	-	(2,933)	10,093
23	Income Tax	-	-	-	-	-	-	-	-
24									
25	Total Operating Expenses	252,223	(530)	(8,202)	(6,107)	(20,500)	(43,132)	(2,933)	170,819
26	Operating Income (Loss)	(77,895)	530	8,202	6,107	20,500	43,132	2,933	3,508

ADJ #	References:
1	Schedule JMM-W10
2	Schedule JMM-W11
3	Schedule JMM-W12
4	Schedule JMM-W13
5	Schedule JMM-W14
6	Schedule JMM-W15

Utility Source, LLC. - Water Division  
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Schedule JMM-W10

**OPERATING INCOME ADJUSTMENT # 1 - CHEMICALS EXPENSE**

LINE NO.	DESCRIPTION	[A]		[B]		[C]	
		COMPANY AS FILED		STAFF ADJUSTMENTS		STAFF AS ADJUSTED	
1	Chemicals	\$	530	\$	(530)	\$	-

References:

Column A: Company Schedule C-1

Column B: Testimony, JMM, Schedule JMM-W9

Column C: Column [A] + Column [B]

Utility Source, LLC. - Water Division  
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Test Year Ended December 31, 2005

Schedule JMM-W11

**OPERATING INCOME ADJUSTMENT # 2 - OUTSIDE SERVICES EXPENSE**

LINE NO.	DESCRIPTION	[A]		[B]		[C]	
		COMPANY AS FILED		STAFF ADJUSTMENTS		STAFF AS ADJUSTED	
1	Outside Services	\$	20,630	\$	(8,202)	\$	12,428
	<u>Staff's calculation of Outside Services</u>						
3	Amount disallowed as non cost of service, Kimley Horn traffic study	\$	(2,622)				
4	Disallowed legal expense which is reasonably accounted for in Company's estimated rate case expense		(5,580)				
5	Total	\$	(8,202)				

References:

Column A: Company Schedule C-1

Column B: Testimony, JMM, Schedule JMM-W9

Column C: Column [A] + Column [B]

Utility Source, LLC. - Water Division  
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Test Year Ended December 31, 2005

Schedule JMM-W12

**OPERATING INCOME ADJUSTMENT # 3 - WATER TESTING EXPENSE**

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Water Testing Expense	\$ 8,553	\$ (6,107)	\$ 2,446

References:

Column A: Company Schedule C-1

Column B: Testimony, JMM, Schedule JMM-W9

Column C: Column [A] + Column [B]



Utility Source, LLC. - Water Division  
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Test Year Ended December 31, 2005

Schedule JMM-W13

OPERATING INCOME ADJUSTMENT # 4 - MISCELLANEOUS EXPENSE

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Miscellaneous expense	\$ 30,722	\$ (20,500)	\$ 10,222

Staff's Calculation of Miscellaneous Expense

Disallowed penalty imposed on Company by Commission for operating without  
a CC&N, a non cost of service expense not imposed on customers.

\$ (20,000)

Disallowed PAD application fee for CC&N extension dated 4/2006, outside test yr.

(500)

Total

\$ (20,500)

References:

Column A: Company Schedule C-1

Column B: Testimony, JMM, Schedule JMM-W9

Column C: Column [A] + Column [B]

Utility Source, LLC. - Water Division  
Docket No. WS-04235A-06-0303  
Test Year Ended December 31, 2005

OPERATING INCOME ADJUSTMENT NO. 4 - DEPRECIATION EXPENSE

LINE NO.	DESCRIPTION	[A]		[B]		[C]			
		COMPANY AS FILED	STAFF AS ADJUSTED	STAFF ADJUSTMENTS	AS ADJUSTED				
1	Depreciation Expense	\$ 116,931 \$ (43,132) \$ 73,799							
ACCT	DESCRIPTION	AT ENGINEER RECOMMENDED RATES		A.D		RETIREMENTS	PLT BAL	DEP EXP	A.D
NO		Total Plant Staff Adjusted 12/31/2004	Recommended Rate	HALF YEAR DEP.	12/31/2004	12/31/2005	12/31/2005	12/31/2005 FULL YR	12/31/2005
301	Organization Cost	-	-	-	-	-	-	-	-
302	Franchise Cost	210,000	-	-	-	-	210,000	-	-
303	Land & Land Rights	72,998	3.33%	1,215	1,215	-	72,998	2,431	3,646
304	Structures & Improvements	1,335,238	3.33%	22,232	22,232	-	1,335,238	44,463	66,895
307	Wells & Springs	87,400	5.00%	2,185	2,185	-	87,400	4,370	6,555
310	Power Generation Equipment	158,711	12.50%	9,919	9,919	-	158,711	19,839	29,758
311	Electric Pumping Equip.	5,487	3.33%	91	91	-	5,487	183	274
320	Water Treatment Equipment	-	3.33%	-	-	-	-	-	-
320.1	Water Treatment Plants	-	20.00%	-	-	-	-	-	-
320.2	Solution Chemicals Feeders	321,452	2.22%	3,568	3,568	-	321,452	7,136	10,704
330	Distribution Reservoirs	-	2.22%	-	-	-	-	-	-
330.1	Storage Tanks	-	5.00%	-	-	-	-	-	-
330.2	Pressure Tanks	147,200	2.00%	1,472	1,472	-	147,200	2,944	4,416
331	Transmission & Distribution-Mains	86,250	3.33%	1,436	1,436	-	86,250	2,872	4,308
333	Services	-	8.33%	-	-	-	-	-	-
334	Meters	34,500	2.00%	345	345	-	34,500	690	1,035
335	Hydrants	-	6.67%	-	-	-	-	-	-
336	Backflow Preventors	-	6.67%	-	-	-	-	-	-
339	Other Plant and Miscellaneous Equipment	-	6.67%	-	-	-	-	-	-
340	Office Furniture & Equip.	-	20.00%	-	-	-	-	-	-
341	Transportation Equip.	-	5.00%	-	-	-	-	-	-
343	Tools and Work Equipment	-	10.00%	-	-	-	-	-	-
344	Laboratory Equipment	-	5.00%	-	-	-	-	-	-
345	Power Operated Equipment	-	10.00%	-	-	-	-	-	-
346	Communications Equipment	-	10.00%	-	-	-	-	-	-
347	Miscellaneous Equipment	-	-	-	-	-	-	-	-
348	Other Tangible Plant	-	-	-	-	-	-	-	-
350.1	O&I Engineering and Planning	-	3.33%	-	-	-	-	-	-
350.2	O&I Well Site	-	3.33%	-	-	-	-	-	-
105	Materials and Supplies Inventory	2,459,236	-	42,464	42,464	-	2,459,236	84,928	127,392
Totals									

Non Depreciable Plant

33	Depreciation Expense Calculation:	
34	Depreciation 2005:	\$ 84,928
35	Net Amortization of CIAC: (294,745 x .037759)	(11,129)
	Depreciation Expense:	\$ 73,799

References:  
Column A: Company Schedule C-1  
Column B: Testimony, JMM, Schedule JMM-W9  
Column C: Column [A] + Column [B]

OPERATING INCOME ADJUSTMENT #6 - PROPERTY TAXES

LINE NO.		[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT	(C) STAFF AS ADJUSTED
1	Property Taxes	\$ 13,026	\$ (2,933)	\$ 10,093

Staff's Calculation of Property Taxes to Reflect Recommended Revenues:

2	Staff Adjusted Test Year Revenues - 2002			\$ 174,327
3	Weight Factor			2
4	Subtotal (Line 1 * Line 2)			348,654
5	Staff Recommended Revenue, Per Schedule JMM-1			367,449
6	Subtotal (Line 4 + Line 5)			716,103
7	Number of Years			3
8	Three Year Average (Line 5 / Line 6)			238,701
9	Department of Revenue Multiplier			2
10	Revenue Base Value (Line 7 * Line 8)			477,402
11	Plus: 10% of CWIP			-
12	Less: Net Book Value of Licensed Vehicles			-
13	Full Cash Value (Line 9 + Line 10 - Line 11)			477,402
14	Assessment Ratio			23.50%
15	Assessment Value (Line 12 * Line 13)			112,189
16	Composite Property Tax Rate (Per Company Schedule C-2, Page 3, Line 16)			8.9963%
17	Staff Proposed Property Tax Expense (Line 14 * Line 15)			\$ 10,093
18	Company Proposed Property Tax			13,026
19	Increase/(Decrease) to Property Tax Expense			\$ (2,933)

References:

Column A: Company Schedule C-1  
Column B: Testimony, JMM, Schedule JMM-W9  
Column C: Column [A] + Column [B]

## RATE DESIGN

Monthly Usage Charge	Present Rates	Company Proposed Rates	Staff Recommended Rates
5/8x3/4" Meter	\$ -	\$ -	18.50
3/4" Meter	6.48	24.30	18.50
1" Meter	8.02	40.50	46.50
1 1/2" Meter	9.62	81.00	92.50
2" Meter	14.00	129.60	148.00
3" Meter	-	259.20	296.00
4" Meter	58.00	405.00	462.50
6" Meter	89.80	810.00	925.00
<b>Commodity Rates</b>			
5/8x3/4" Meter (Residential)			
Gallons Included in Minimum	-	-	-
Excess of Minimum - per 1,000 Gallons			
From 1 to 6,000 Gallons	N/A	N/A	N/A
From 6,001 to 15,000 Gallons	N/A	N/A	N/A
In excess of 15,000 Gallons	N/A	N/A	N/A
From Zero to 5,000 Gallons	N/A	N/A	N/A
From 5,001 to 15,000 Gallons	N/A	N/A	N/A
Over 15,000 Gallons	N/A	N/A	N/A
From Zero to 4,000 Gallons	N/A	N/A	\$ 4.80
From 4,001 to 9,000 Gallons	N/A	N/A	7.16
Over 9,000 Gallons	N/A	N/A	8.60
5/8x3/4" Meter (Commercial)			
Gallons Included in Minimum	-	-	-
Excess of Minimum - per 1,000 Gallons			
From 1 to 6,000 Gallons	N/A	N/A	N/A
From 6,001 to 15,000 Gallons	N/A	N/A	N/A
In excess of 15,000 Gallons	N/A	N/A	N/A
From Zero to 5,000 Gallons			
From 5,001 to 15,000 Gallons			
Over 15,000 Gallons			
From Zero to 4,000 Gallons	N/A	N/A	N/A
From 4,001 to 9,000 Gallons	N/A	N/A	\$ 7.16
Over 9,000 Gallons	N/A	N/A	8.60
3/4" Meter (Residential)			
Gallons Included in Minimum	-	-	-
Excess of Minimum - per 1,000 Gallons			
From 1 to 6,000 Gallons	\$ 2.83	N/A	N/A
From 6,001 to 15,000 Gallons	3.32	N/A	N/A
In excess of 15,000 Gallons	4.71	N/A	N/A
From Zero to 5,000 Gallons	N/A	\$ 8.82	N/A
From 5,001 to 15,000 Gallons	N/A	10.35	N/A
Over 15,000 Gallons	N/A	14.69	N/A
From Zero to 4,000 Gallons	N/A	N/A	\$ 4.80
From 4,001 to 9,000 Gallons	N/A	N/A	7.16
Over 9,000 Gallons	N/A	N/A	8.60
3/4" Meter (Commercial)			
Gallons Included in Minimum	-	-	-
Excess of Minimum - per 1,000 Gallons			
From 1 to 6,000 Gallons	N/A	N/A	N/A
From 6,001 to 15,000 Gallons	N/A	N/A	N/A
In excess of 15,000 Gallons	N/A	N/A	N/A
From Zero to 5,000 Gallons	N/A	N/A	N/A
From 5,001 to 15,000 Gallons	N/A	N/A	N/A
Over 15,000 Gallons	N/A	N/A	N/A
From Zero to 4,000 Gallons	N/A	N/A	N/A
From 4,001 to 9,000 Gallons	N/A	N/A	\$ 7.16
Over 9,000 Gallons	N/A	N/A	8.60
1" Meter and Larger (Residential)			
Gallons Included in Minimum	-	-	-
Excess of Minimum - per 1,000 Gallons			
From 1 to 6,000 Gallons	\$ 2.83	N/A	N/A
From 6,001 to 15,000 Gallons	3.32	N/A	N/A
In excess of 15,000 Gallons	4.71	N/A	N/A

From Zero to 5,000 Gallons	N/A	\$ 8.82	N/A
From 5,001 to 15,000 Gallons	N/A	10.35	N/A
Over 15,000 Gallons	N/A	14.69	N/A
From Zero to 4,000 Gallons	N/A	N/A	N/A
From 4,001 to 9,000 Gallons	N/A	N/A	\$ 7.16
Over 9,000 Gallons	N/A	N/A	8.60
1" Meter and Larger (Commercial)			
Gallons Included in Minimum	-	-	-
Excess of Minimum - per 1,000 Gallons			
From 1 to 6,000 Gallons	N/A	N/A	N/A
From 6,001 to 15,000 Gallons	N/A	N/A	N/A
In excess of 15,000 Gallons	N/A	N/A	N/A
From Zero to 5,000 Gallons	N/A	N/A	N/A
From 5,001 to 15,000 Gallons	N/A	N/A	N/A
Over 15,000 Gallons	N/A	N/A	N/A
From Zero to 9,000 Gallons	N/A	N/A	N/A
From 4,001 to 9,000 Gallons	N/A	N/A	\$ 7.16
Over 9,000 Gallons	N/A	N/A	8.60
<u>Multi-Family Mobile Home, and Commercial Customers</u>			
All consumption per 1,000 gallons	\$ 2.97	\$ 9.26	N/A
<u>Irrigation Meters</u>			
Charge per 1,000 gallons for usage	N/A	\$ 9.26	\$ 9.26
<u>Standpipe or Bulk Water</u>			
Standpipe or bulk water per 1,000 gallons	\$ 6.00	\$ 10.35	\$ 10.35
<u>Construction Water</u>			
Construction Water per 1,000 gallons	\$ 6.00	\$ 10.35	\$ 10.35
<u>Service Line and Meter Installation Charges</u>			
5/8" x 3/4" Meter	\$ -	\$ -	\$ 520.00
3/4" Meter	575.00	575.00	575.00
1" Meter	660.00	660.00	660.00
1 1/2" Meter	900.00	900.00	900.00
2" Turbine Meter	1,525.00	1,525.00	1,525.00
2" Compound Meter	-	-	2,320.00
3" Turbine Meter	-	-	2,275.00
3" Compound Meter	-	-	3,110.00
4" Turbine Meter	3,360.00	3,360.00	3,360.00
4" Compound Meter	-	-	4,475.00
6" Turbine Meter	6,035.00	6,035.00	6,035.00
6" Compound Meter	-	-	8,050.00
<u>Service Charges</u>			
Establishment	\$ 20.00	\$ 20.00	\$ 20.00
Establishment of Services after hours	40.00	40.00	40.00
Re-establishment of Service	*	*	*
Reconnection Service	50.00	50.00	50.00
Reconnection (Delinquent and After Hours)	40.00	40.00	40.00
Charge for moving meter	Cost	Cost	Cost
After hours service charge	40.00	40.00	40.00
Minimum Deposit Requirement	**	**	**
Deposit Interest	3.00%	3.00%	Per Rule
Meter Test	20.00	20.00	20.00
Meter Re-Read	10.00	10.00	10.00
Charge for NSF Check	20.00	20.00	20.00
Late Payment charge for delinquent bill	1.50%	1.50%	***
Deferred Payment Finance Charge	1.50%	1.50%	***
Main Extension and additional facility agreements	***	***	***
* Per Commission Rule Rule R14-2-403(D)			
** Per Commission Rule Rule R14-2-403(B)			
*** Per Commission Rule Rule R14-2-406(B)			

**Typical Bill Analysis**  
General Service 3/4-Inch Meter

Company Proposed	Gallons	Present Rates	Proposed Rates	Dollar Increase	Percent Increase
Average Usage	4,740	\$ 19.89	\$ 66.11	\$ 46.21	232.29%
Median Usage	4,500	19.22	63.99	\$ 44.78	233.02%
<b>Staff Recommended</b>					
Average Usage	4,740	\$ 19.89	\$ 43.00	\$ 23.10	116.14%
Median Usage	4,500	19.22	41.28	\$ 22.07	114.83%

**Present & Proposed Rates (Without Taxes)**  
General Service 3/4-Inch Meter

Gallons Consumption	Present Rates	Company Proposed Rates	% Increase	Staff Recommended Rates	% Increase
-	\$ 6.48	\$ 24.30	275.00%	\$ 18.50	185.49%
1,000	9.31	33.12	255.75%	23.30	150.27%
2,000	12.14	41.94	245.47%	28.10	131.47%
3,000	14.97	50.76	239.08%	32.90	119.77%
4,000	17.80	59.58	234.72%	37.70	111.80%
5,000	20.63	68.40	231.56%	44.86	117.45%
6,000	23.95	78.75	228.81%	52.02	117.20%
7,000	27.27	89.10	226.73%	59.18	117.02%
8,000	30.59	99.45	225.11%	66.34	116.87%
9,000	33.91	109.80	223.80%	73.50	116.75%
10,000	37.23	120.15	222.72%	82.10	120.52%
11,000	40.55	130.50	221.82%	90.70	123.67%
12,000	43.87	140.85	221.06%	99.30	126.35%
13,000	47.19	151.20	220.41%	107.90	128.65%
14,000	50.51	161.55	219.84%	116.50	130.65%
15,000	53.83	171.90	219.34%	125.10	132.40%
16,000	58.54	186.59	218.74%	133.70	128.39%
17,000	63.25	201.28	218.23%	142.30	124.98%
18,000	67.96	215.97	217.79%	150.90	122.04%
19,000	72.67	230.66	217.41%	159.50	119.49%
20,000	77.38	245.35	217.07%	168.10	117.24%
25,000	100.93	318.80	215.86%	211.10	109.15%
30,000	124.48	392.25	215.11%	254.10	104.13%
35,000	148.03	465.70	214.60%	297.10	100.70%
40,000	171.58	539.15	214.23%	340.10	98.22%
45,000	195.13	612.60	213.94%	383.10	96.33%
50,000	218.68	686.05	213.72%	426.10	94.85%
75,000	336.43	1,053.30	213.08%	641.10	90.56%
100,000	454.18	1,420.55	212.77%	856.10	88.49%

**BEFORE THE ARIZONA CORPORATION COMMISSION**

JEFF HATCH-MILLER

Chairman

WILLIAM A. MUNDELL

Commissioner

MIKE GLEASON

Commissioner

KRISTIN K. MAYES

Commissioner

GARY PIERCE

Commissioner

IN THE MATTER OF THE APPLICATION OF )  
UTILITY SOURCE, L.L.C., AN ARIZONA )  
LIMITED LIABILITY COMPANY, FOR )  
A DETERMINATION OF THE CURRENT )  
FAIR VALUE OF ITS UTILITY PROPERTY )  
AND FOR AN INCREASE IN ITS )  
WASTEWATER RATES AND CHARGES FOR )  
UTILITY SERVICES )  
\_\_\_\_\_ )

DOCKET NO. WS-04235A-06-0303

DIRECT

TESTIMONY

OF

JEFFREY M. MICHLIK

PUBLIC UTILITIES ANALYST IV

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

JANUARY 19, 2007

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**EXECUTIVE SUMMARY  
UTILITY SOURCE, LLC  
SEWER DIVISION  
DOCKET NO. W-04235A-06-0303**

Utility Source, LLC – Sewer Division (“Company”) is an Arizona limited liability company. The sewer utility is located in Coconino County. The Company’s sewer system is located just north of highway 40 in Bellemont, Arizona. The Company served approximately 337 customers during the test year ended December 31, 2005. The Company’s current rates were approved in Decision No. 67446, dated January 4, 2005.

Rate Application:

The Company proposes rates that would increase operating revenue by \$187,220 to produce operating revenue of \$301,125 resulting in operating income of \$147,205, or a 164.37 percent increase over test year revenue of \$113,905. The Company also proposes a fair value rate base (“FVRB”) of \$1,401,953 which is its original cost rate base, and a 10.50 percent rate of return on the FVRB.

Staff recommends rates that would increase operating revenue by \$111,003 to produce operating revenue of \$224,908 resulting in operating income of \$94,999, or a 97.45 percent increase over adjusted test year revenue of \$113,905. Staff recommends a FVRB of \$989,576, and a 9.60 percent rate of return on the FVRB.

Rate Design:

Due to the facts related in Decision No. 67446, in which the Company did not have a valid Certificate of Convenience and Necessity (CC&N) and was charging rates that were not approved by the Commission; Staff, in an effort to alleviate the rate burden on customers, has accepted the Company’s proposal and will include estimated usage of 350 homes that are currently being built, in the rate design.

The Company proposes rates per 1,000 gallons of water usage by customer category as follows: residential \$7.28; car washes, laundromats, commercial, manufacturing \$7.12; hotels and motels \$9.55; restaurants \$11.79; industrial laundries \$10.45; waste haulers \$213.36; restaurant grease \$186.69; treatment plant sludge \$213.36; and mud sump waste \$666.75.

Staff recommends rates per 1,000 gallons of water usage by customer category as follows: residential \$5.58; car washes, laundromats, commercial, manufacturing \$5.45; hotels and motels \$7.31; restaurants; \$9.03; industrial laundries \$8.01; waste haulers \$163.44; restaurant grease \$143.01; treatment plant sludge \$163.44; and mud sump waste \$510.75.

1     **INTRODUCTION**

2     **Q.     Please state your name, occupation, and business address.**

3     A.     My name is Jeffrey M. Michlik. I am a Public Utilities Analyst IV employed by the  
4             Arizona Corporation Commission ("ACC" or "Commission") in the Utilities Division  
5             ("Staff"). My business address is 1200 West Washington Street, Phoenix, Arizona 85007.  
6

7     **Q.     Briefly describe your responsibilities as a Public Utilities Analyst IV.**

8     A.     In my capacity as a Public Utilities Analyst IV, I analyze and examine accounting,  
9             financial, statistical and other information and prepare reports based on my analyses that  
10            present Staff's recommendations to the Commission on utility revenue requirements, rate  
11            design and other matters. I also provide expert testimony on these same issues.  
12

13    **Q.     Please describe your educational background and professional experience.**

14    A.     In 2000, I graduated from Idaho State University, receiving a Bachelor of Business  
15             Administration Degree in Accounting and Finance, and I am a Certified Public  
16             Accountant with the Arizona State Board of Accountancy. I have attended the National  
17             Association of Regulatory Utility Commissioners' ("NARUC") Utility Rate School,  
18             which presents general regulatory and business issues.  
19

20            I joined the Commission as a Public Utilities Analyst in May of 2006. Prior to  
21            employment with the Commission, I worked four years for the Arizona Office of the  
22            Auditor General as a Staff Auditor, and one year in public accounting as a Senior Auditor.  
23

24    **Q.     What is the scope of your testimony in this case?**

25    A.     I am presenting Staff's analysis and recommendations regarding Utility Source, LLC's  
26             ("Company") application for a permanent increase in its rates and charges for wastewater

1 utility service within Coconino County, Arizona. I am presenting testimony and schedules  
2 addressing rate base, operating revenues and expenses, revenue requirement, and rate  
3 design. Staff witness Mr. Steve Irvine is presenting Staff's Cost of Capital and related  
4 recommendations. Mr. Jian Liu is presenting Staff's engineering analysis and related  
5 recommendations.

6  
7 **Q. What is the basis of your testimony in this case?**

8 A. I performed a regulatory audit of the Company's application and records. The regulatory  
9 audit consisted of examining and testing financial information, accounting records, and  
10 other supporting documentation and verifying that the accounting principles applied were  
11 in accordance with the Commission adopted NARUC Uniform System of Accounts  
12 ("USOA").

13  
14 **BACKGROUND**

15 **Q. Please review the background of this application.**

16 A. Utility Source is an Arizona limited liability company. The wastewater utility is located in  
17 Coconino County. The Company's wastewater system is located just north of highway 40  
18 in Bellemont, Arizona. The Company served approximately 337 customers during the test  
19 year ended December 31, 2005. The Company's current rates were approved in Decision  
20 No. 67446, dated January 4, 2005. On May 1, 2006, the Company filed an application as  
21 a result of Decision No. 67446, requesting a determination of the current fair value of its  
22 utility property and permanent rate increase for its water and sewer divisions. On July 3,  
23 2006, Staff filed a letter declaring the application sufficient.

**CONSUMER SERVICES**

**Q. Please provide a brief history of customer complaints received by the Commission regarding the Company. Additionally, please discuss customer responses to the Company's proposed rate increase.**

A. Staff reviewed the Commission's records and found zero complaints, six inquiries, and thirteen opinions during the past three and a half years. All of the thirteen opinions were opposed to the proposed rate increase.

**SUMMARY OF FILING, RECOMMENDATIONS, AND ADJUSTMENTS**

**Q. Please summarize the Company's filing.**

A. The Company proposes rates that would increase operating revenues by \$187,220, to produce operating revenue of \$301,125, resulting in operating income of \$147,205, or a 164.37 percent increase over test year revenue of \$113,905. The Company also proposes a fair value rate base ("FVRB") of \$1,401,953, which is its original cost rate base, and a 10.50 percent rate of return on the FVRB.

**Q. Please summarize Staff's recommendations.**

A. Staff recommends rates that would increase operating revenue by \$111,003 to produce operating revenue of \$224,908, resulting in operating income of \$94,999, or a 97.45 percent increase over adjusted test year revenue of \$113,905. Staff recommends a FVRB of \$989,576, and a 9.60 percent rate of return on the FVRB.

**Q. Please summarize the rate base adjustments addressed in your testimony.**

A. My testimony addresses the following issues:

Plant in Service – These adjustments decrease rate base by \$375,095.

Accumulated Depreciation – This adjustment decreases rate base by \$37,461.

1        Contributions in Aid of Construction ("CIAC") – This adjustment increases rate base by  
2        \$8,101.

3        Working Capital – This adjustment decreases rate base by \$7,921.  
4

5        **Q.     Please summarize the operating revenue and expense adjustments addressed in your**  
6        **testimony.**

7        A.     My testimony addresses the following issues:

8        Miscellaneous Expense – This adjustment decreases expenses by \$500.

9        Waste Water Testing Expense – This adjustment increases expenses by \$4,430.

10       Depreciation Expense – This adjustment decreases expenses by \$26,856.

11       Property Tax Expense – This adjustment decreases expenses by \$1,086.  
12

13       **RATE BASE**

14       **Rate Base Summary**

15       **Q.     Please review the Company's proposed rate base.**

16       A.     The Company is proposing a FVRB of \$1,401,953 as shown on Schedule JMM-WW2.  
17

18       **Q.     Is Staff recommending any changes to the Company's proposed rate base?**

19       A.     Yes. Staff recommends a FVRB of \$989,576 as shown on Schedule JMM-WW2, a  
20       reduction of \$412,377 from the Company's proposed FVRB.  
21

22       **Q.     How many rate base adjustments is Staff recommending?**

23       A.     Staff recommends four adjustments to rate base as shown on Schedules JMM-WW2 and  
24       JMM-WW3. Each adjustment described below is made to the FVRB.

**Rate Base Adjustment No. 1 – Plant in Service.**

**Q. What is the Company proposing for the account 355, Power Generation Equipment?**

A. The Company is proposing costs of \$32,200. See Company Schedule B-2 page 4b.

**Q. Please explain the results of Staff's analysis of account 355, Power Generation Equipment.**

A. Staff examined invoices and a line item detail schedule by plant account provided by the Company, as requested by Staff. Staff's analysis of the documentation and explanations provided by the Company through Staff's data requests concluded that \$29,321 of emergency generator cost contributed to Santec Corporation was double counted and included in account 380, treatment and disposal equipment, treatment plant #2. The contract for wastewater treatment plant #2 was signed with Santec Corporation, and included addendums for an enhanced emergency generator, management fees and site work. Staff removed the emergency generator cost from account 355 and kept the cost as part of the total contract amount contributed to Santec Corporation for wastewater treatment plant #2 in account 380.

**Q. What is Staff's recommendation for account 355, Power Generation Equipment?**

A. Staff is recommending the disallowance of \$29,321 already included in account 380, treatment and disposal equipment, treatment plant #2. Staff's resulting recommended account balance for power generation equipment is \$2,879.

**Q. What is the Company proposing for account 380, Treatment and Disposal Equipment?**

A. The Company is proposing costs of \$1,106,874. See Company Schedule B-2 page 4b.

1    **Q.    Please explain the results of Staff's analysis of account 380, Treatment and Disposal**  
2    **Equipment.**

3    A.    Staff examined invoices and a line item detail schedule by plant account provided by the  
4    Company, as requested by Staff. Staff's analysis of the documentation and explanations  
5    provided by the Company through Staff's data requests concluded the following:

- 6        1.    Staff disallowed \$68,271 of costs posted to treatment plant #1, which was  
7           performed by Alta Mesa Construction. No invoices or explanation of the costs  
8           asserted by the Company for this amount were provided. Staff was unable to  
9           determine what the cost was for, or whether it possibly represented work  
10          performed by Advanced Environmental Systems, Inc., the vendor contracted to  
11          build wastewater treatment plant #1. The burden of proof to substantiate costs is  
12          on the Company, and utility customers cannot be asked to endure unsupported  
13          costs in determining their rates.
- 14       2.    Staff disallowed \$178,231 in costs posted to Evaporative Lagoons related to the  
15          Flagstaff Meadows Water Feature Project contracted by the vendor Red Rock  
16          Contractors. The costs represent manmade water falls, streams, pond, and lake.  
17          Effluent processed by the wastewater treatment plants are used to feed the pond  
18          and lake. In Staff's review of documentation provided by the Company, there was  
19          no indication that the water features described were a necessary and required  
20          component of the wastewater utility system. No documentation from ADEQ  
21          approving the water features as a necessary part of the sewer system was made  
22          available. Based on available documentation, Staff has concluded that the water  
23          features are not a necessary component of the utility system, but contribute to a  
24          park-like setting for the general development which has already profited the  
25          owners through the sale of homes in the Flagstaff Meadows development project.



1 Staff believes that utility customers should not endure the cost of these features in  
2 utility rates.

- 3 3. Staff disallowed \$99,272 in costs contributed to treatment plant #2. The contract  
4 for wastewater treatment plant #2 was signed with Santec Corporation, and  
5 included addendums for an enhanced emergency generator, management fees and  
6 site work. Due to the addendums to the contract, additional charges and  
7 adjustments, Staff requested all cancelled checks paid to Santec Corporation. The  
8 total of cancelled checks was used to record the amount of work performed by  
9 Santec Corporation for wastewater treatment plant #2. The amount disallowed by  
10 Staff is the difference between the Company's asserted costs for treatment plant #2  
11 and the total of cancelled checks provided.

12  
13 **Q. What is Staff's recommendation for account 380, Treatment and Disposal**  
14 **Equipment?**

15 A. Staff is recommending a decrease of \$345,774, resulting in a recommended account  
16 balance of \$761,100.

17  
18 **Q. What is the result of the two adjustments made for Plant in Service?**

19 A. The net result of the two adjustments is to decrease plant in service by \$375,095, from  
20 \$1,139,074 to \$763,979. Staff's adjustments are shown on schedule JMM-WW4.

21  
22 **Rate Base Adjustment No. 2 – Accumulated Depreciation.**

23 **Q. What is the Company proposing for Accumulated Depreciation?**

24 A. The Company is proposing \$32,797 for accumulated depreciation. See Company  
25 Schedule B-2 page 1.

1     **Q.     Please explain the results of Staff's analysis of Accumulated Depreciation.**

2     A.     Staff's analysis of the schedules, documentation and explanations provided by the  
3           Company through Staff's data requests concluded that the Company used an in-service  
4           date for all plant assets that corresponded to the date the Company obtained its Certificate  
5           of Convenience and Necessity ("CC&N"). However, in the instant case, the owners had  
6           placed in service all sewer utility plant prior to obtaining a CC&N, and were providing  
7           service to customers prior to the in-service date used by the Company in this rate  
8           application, which is the grant date of their CC&N and the rate application test year, 2005.

9  
10          In Staff's review of the line item detail schedule by plant account and invoices provided  
11          by the Company, material amounts included in the schedule did not have transaction dates  
12          or invoices associated with the costs. However, it is clear from the documentation  
13          provided that all wastewater utility plant assets were providing service by the end of 2004.  
14          Therefore, Staff is recommending 2004 as the in-service date of all wastewater utility  
15          plant assets, and not 2005 as the Company proposes.

16  
17          In review of Company witness Mr. Bourassa's Schedule B-2, page 4b testimony, the  
18          Company used an in-service date of 2005 and a half year convention in computing  
19          depreciation expense for the first year, which translates into an accumulated depreciation  
20          total for the test year equal to the half year of depreciation expense. Since Staff is  
21          recommending 2004 as the in-service date of all wastewater utility plant assets, Staff's  
22          accumulated depreciation will consist of half year depreciation, using the half year  
23          convention, for 2004, and a full year of depreciation for 2005.

1 **Q. What is Staff's recommendation for the Accumulated Depreciation account?**

2 A. Staff is recommending an increase of \$37,461, resulting in a recommended account  
3 balance for accumulated depreciation of \$70,258. Staff's adjustment is shown on  
4 Schedule JMM-WW5.  
5

6 **Rate Base Adjustment No. 3 – Advances in Aid of Construction ("AIAC") reclassified as**  
7 **CIAC.**

8 **Q. What is the Company proposing for AIAC?**

9 A. The Company is proposing \$197,973. See Company Schedule B-2 page 1.  
10

11 **Q. Please explain the results of Staff's analysis of AIAC.**

12 A. While inquiring of the nature of the assets included by the Company in AIAC and  
13 requesting supporting line extension agreements approved by the Commission for the  
14 advances, the Company's response to Staff's second data request stated that the  
15 Company's proposed AIAC amount was in error and should be reclassified as CIAC.  
16 Staff accepts the Company's proposal to reclassify the AIAC amount to CIAC.  
17

18 **Q. What is Staff's recommendation for AIAC and CIAC?**

19 A. Staff is recommending decreasing AIAC by \$197,973 and increasing CIAC by \$197,973.  
20 Additionally, Staff is recommending amortization of CIAC in 2005 of \$8,101, for a net  
21 CIAC balance of \$189,872. Staff's adjustment is shown on schedule JMM-WW6.  
22

23 **Rate Base Adjustment No. 4 – Working Capital.**

24 **Q. What is the Company proposing for the Allowance of Cash Working Capital?**

25 A. The Company is proposing a \$7,921 allowance for cash working capital based on a simple  
26 income statement approach which takes 1/8 of the amount presented on the income

1 statement for operations and maintenance expense and 1/24 of the amount for pumping  
2 power. This methodology is known as the formula method. See Company Schedule B-5  
3 page 1.

4  
5 **Q. What recommendation is Staff making?**

6 A. Staff is recommending that the \$7,921 allowance for cash working capital be disallowed,  
7 as a utility of this size should have presented a lead-lag study to establish an estimate of  
8 cash working capital. As a result, Staff is recommending a zero balance for cash working  
9 capital. Staff's adjustment is shown on Schedule JMM-WW7.

10  
11 **Q. Why is Staff recommending disallowance of this amount?**

12 A Staff typically only allows cash working capital allowances calculated by the formula  
13 method for small class D and E utilities. The formula method always produces a positive  
14 cash working capital need. Utilities classified as A, B, or C are much larger and Staff  
15 believes that the formula method does not accurately reflect the related cash working  
16 capital needs. Typically Staff finds that proper lead/lag studies usually produce a negative  
17 cash working capital need. Staff recommends disallowance of any cash working capital  
18 allowance.

19  
20 **OPERATING INCOME**

21 **Operating Income Summary**

22 **Q. What are the results of Staff's analysis of test year revenues, expenses, and operating**  
23 **income?**

24 A. Staff's analysis resulted in adjusted test year operating revenues of \$113,905, operating  
25 expenses of \$129,909 and operating loss of \$16,004 as shown on Schedules JMM-WW8  
26 and JMM-WW9. Staff made three adjustments to operating income.

1     **Q.     Did Staff make any adjustments to operating revenue?**

2     A.     No, however, Staff did accept the Company's projected customer growth of 350  
3             customers.

4  
5     **Q.     Why is Staff accepting these projected numbers?**

6     A.     The numbers submitted by the Company are known projects currently under development  
7             and assume that the homes will be built. The Company has provided these numbers in an  
8             effort to minimize the impact on the rates and is not intended to set any precedent for this  
9             or any other utility regulated by the Commission.

10  
11    **Q.     Is this unusual?**

12    A.     Yes, however, noting the history of the Company, which was operating without a valid  
13             CC&N, Staff feels that the rate payer should not have to pay for the Company's mistakes.

14  
15    **Q.     What happens if all the homes are not built?**

16    A.     The Company could be under earning, and as a result will have to reduce expenses or file  
17             another rate case. In this particular case, the Company is assuming the risk that the homes  
18             may not be built.

19  
20    **Operating Expense Adjustment No. 1 – Miscellaneous Operating Expense**

21    **Q.     Please explain Staff's Operating Expense Adjustment No. 1.**

22    A.     Staff's adjustment decreased miscellaneous expense by \$500, from \$5,465 to \$4,965.  
23             Staff's adjustment is shown on Schedule JMM-WW10.

1 **Q. Why is Staff making this recommendation?**

2 A. Staff is disallowing \$500 in expense for a physical determination availability application  
3 relating to the Company's CC&N extension application. The application was signed and  
4 dated by the owner on 4/18/2006; however, the Company posted the expense on  
5 12/28/2005. Based on the documentation provided by the Company the expense is  
6 considered outside the test year and not a recurring cost of service.  
7

8 **Operating Expense Adjustment No. 2 – Waste Water Testing Expense**

9 **Q. Please explain Staff's Operating Expense Adjustment No. 2.**

10 A. Staff's adjustment increases waste water testing expense by \$4,430, from \$0 to \$4,430, as  
11 shown on Schedule JMM-WW11. An explanation of this adjustment can be found in  
12 Staff's Engineering Report.  
13

14 **Operating Expense Adjustment No. 3 – Depreciation Expense**

15 **Q. Please explain Staff's Operating Expense Adjustment No. 3.**

16 A. Staff's adjustment decreases depreciation expense by \$26,856, from \$65,954 to \$38,738.  
17

18 **Q. Why does this amount differ from the Company proposed depreciation expense?**

19 A. Staff's calculation of depreciation expense is based upon Staff's recommended  
20 depreciation rates, and Staff's adjustments to rate base and the in-service date for plant  
21 assets. Since the Company was operating water utility service prior to the test year 2005,  
22 and all water utility plant was in service no later than 2004, Staff is using 2004 as the in-  
23 service date for all plant assets. This results in half year deprecation, using the half year  
24 convention, in 2004, and full year depreciation in the 2005 test year. This is shown on  
25 Schedule JMM-WW12.

**Operating Expense Adjustment No. 4 – Property Tax Expense**

**Q. Please explain Staff's Operating Expense Adjustment No. 4.**

A. Staff's adjustment decreases property tax \$1,086, from \$7,533 to \$6,447. Staff's calculation is based upon Staff's adjusted test year and recommended revenues. Please see Schedule JMM-WW13 for Staff's calculation.

**REVENUE REQUIREMENT**

**Q. What does the Company propose for an increase in operating revenue?**

A. The Company proposes increasing operating revenues by \$187,220 from \$113,905 to \$301,125.

**Q. What does Staff recommend for an increase in operating revenues?**

A. Staff recommends a \$111,003 increase in operating revenues, from \$113,905 to \$224,908.

**Q. How did Staff determine its recommended operating revenue?**

A. Staff determined a 9.60 percent return on FVRB is appropriate. Therefore, a rate of return of 9.60 percent on Staff's recommended FVRB of \$989,576 produces the required operating income of \$94,999. For further information on how the 9.60 percent cost of capital was calculated please see the testimony of Staff witness Steve Irvine.

**Q. Why did Staff choose a flow rate, instead of flat rate for its customers?**

A. Each case is unique unto itself, and in this particular case it was decided in Decision No. 67446 that flow rates would be used. In addition, the Company has or plans to have more than one commercial class of user (i.e., car wash, hotel, and industrial laundries) instead of a single commercial class such as a manufacturing plant. Each of the above commercial classes discharges different volumes of waste into the sewer system.

1     **Q.     Why did Staff use water usage instead of an estimate of volumetric discharge?**

2     A.     Again each case is unique, and it was decided in Decision No. 67446 that the rates would  
3           be based on water usage volume.

4  
5     **Q.     Is there anything unusual about the way Staff calculated the revenue requirement?**

6     A.     Yes, as mentioned earlier in my testimony Staff accepted the Company's adjustment to  
7           test year revenues by including estimated usage of 350 homes that are currently under  
8           development. Therefore, the 350 homes account for \$105,420 of the total \$224,908 in  
9           metered water revenue, or 46.87 percent of total metered water revenue. The \$105,420  
10          was calculated as follows: 350 customers x 12 months x \$25.10 Staff's Median Usage  
11          from Schedule JMM-WW15 = \$105,420. The remainder is calculated from the  
12          Company's current customers.

13  
14    **Q.     Why has Staff calculated the revenue requirement in this manner?**

15    A.     Staff calculated the revenue requirement in this manner based on the facts and issues that  
16           were reviewed in Decision No. 67446, which directly affects the current water and  
17           wastewater customers of the Company.

18  
19           As a result of operating a water/wastewater system without a valid CC&N, the Company  
20           was assessed a penalty for failure to comply with the Rules and Regulations of the  
21           Arizona Corporation Commission. In the Decision, it was noted that "The Company's  
22           actions, as detailed in the record of this proceeding, constitute one of the most egregious  
23           examples of unauthorized preemptory operations ever confronted by the Commission.  
24           Therefore, as a condition of approval of the requested CC&N, Utility Source shall pay  
25           \$20,000, based on a penalty of \$100 for each of its approximately 200 customers that were



1 connected to the Company's system prior to issuance of a CC&N." See Decision No.  
2 67446 page 19.

3  
4 In this Decision it was also noted that "it appears that the developer induced customers to  
5 purchase homes with water and wastewater rates that will be insufficient to support the  
6 construction and long-term operations of water and wastewater systems for planned  
7 development. Although we do not ascribe any malicious intent to developer's actions, the  
8 net effect of those actions cannot help but lead to extremely unhappy customers who may  
9 be left to pay for the utility systems at costs that significantly exceed the rates they  
10 expected to pay when they purchased their homes." See Decision No. 67446 page 11.

11  
12 As a result of the artificially low unapproved rates, the Company in the Order was  
13 required to "Notify all existing and future customers that: the water and wastewater rates  
14 currently in effect were not approved by the Commission because the Company  
15 commenced operations without the Commission's authorization; the Company is required  
16 to file a rate application by May 1, 2006 that may result in higher rates." See Decision  
17 No. 67446 page 24.

18  
19 As you can see from the excerpts in the previous case, the Commission was critical of the  
20 Company not having a valid CC&N and operating with rates that were not approved by  
21 the Commission. In addition, the Commission was concerned about the rate impact on  
22 current and future customers.

23  
24 In an effort to lessen the rate impact on customers, the Company in its rate application  
25 proposed including 350 homes that are currently being built. Staff accepted the  
26 Company's proposal and has included these 350 customers in the rate design in order to

1 ameliorate the rate shock that current and future customers will experience. Also, since  
2 Staff accepted the Company's revenue adjustment to test year revenues, it is only logical  
3 to include these 350 customers in deriving the revenue requirement. Again this is a unique  
4 case, and should not be used as a precedent for any other utility regulated by the  
5 Commission.

6  
7 **Q. What would happen if only the current customers were used to derive the revenue**  
8 **requirement?**

9 A. Staff's recommendations would be inadequate and Staff would have to recommend further  
10 increases in the rates imposed on the current and future customers.

11  
12 **RATE DESIGN**

13 **Q. Have you prepared a schedule summarizing the present, Company proposed, and**  
14 **Staff recommended rates and service charges?**

15 A. Yes. A summary of the present, Company proposed, and Staff recommended rates and  
16 service charges are provided on Schedule JMM-WW14.

17  
18 **Q. Would you please summarize the present rate design?**

19 A. The present rates per 1,000 gallons of water usage by customer category are as follows:  
20 residential \$2.73; car washes, laundromats, commercial, and manufacturing \$2.67; hotels  
21 and motels \$3.58; restaurants \$4.42; industrial laundries \$3.92; waste haulers \$80.00;  
22 restaurant grease \$70.00; treatment plant sludge \$80.00; and mud sump waste \$250.00.

23  
24 **Q. Would you please summarize the Company's proposed rate design?**

25 A. The Company's proposed rates per 1,000 gallons of water usage by customer category are  
26 as follows: residential \$7.28; car washes, laundromats, commercial, manufacturing \$7.12;

1 hotels and motels \$9.55; restaurants \$11.79; industrial laundries \$10.45; waste haulers  
2 \$213.36; restaurant grease \$186.69; treatment plant sludge \$213.36; and mud sump waste  
3 \$666.75.

4  
5 **Q. Would you please summarize Staff's recommended rate design?**

6 A. Staff's recommended rates per 1,000 gallons of water usage by customer category are as  
7 follows: residential \$5.58; car washes, laundromats, commercial, manufacturing \$5.45;  
8 hotels and motels \$7.31; restaurants; \$9.03; industrial laundries \$8.01; waste haulers  
9 \$163.44; restaurant grease \$143.01; treatment plant sludge \$163.44; and mud sump waste  
10 \$510.75. A comparison of the current rates, the Company's proposed rates, and Staff's  
11 recommended rates are presented on Schedule JMM-WW14.

12  
13 **Q. What is the rate impact on a residential wastewater customer with a median**  
14 **consumption of 4,500 gallons?**

15 A. A typical bill analysis is provided on Schedule JMM-WW15. The median usage of  
16 residential 3/4-inch meter customers is 4,500 gallons per month. The 3/4-inch meter  
17 residential customer would experience a \$20.48 or 166.67 percent increase in their  
18 monthly bill from \$12.29 to \$32.76 under the Company's proposed rates and a \$12.81 or  
19 104.30 percent increase in their monthly bill from \$12.29 to \$25.10 under Staff's  
20 recommended rates.

21  
22 **Q. What service charges does Staff recommend?**

23 A. A comparison of the current charges, the Company's proposed charges, and Staff's  
24 recommended charges are presented on Schedules JMM-WW14. These charges are  
25 within Staff's experience of what are reasonable and customary charges.

1    **Q.**    **Does this conclude your direct testimony?**

2    **A.**    Yes, it does.

**REVENUE REQUIREMENT**

LINE NO.	DESCRIPTION	(A) COMPANY ORIGINAL COST	(C) COMPANY FAIR VALUE	(D) STAFF ORIGINAL COST	(E) STAFF FAIR COST
1	Adjusted Rate Base	\$ 1,401,953	\$ 1,401,953	\$ 989,576	\$ 989,576
2	Adjusted Operating Income (Loss)	\$ (40,015)	\$ (40,015)	\$ (16,004)	\$ (16,004)
3	Current Rate of Return (L2 / L1)	-2.85%	-2.85%	-1.62%	-1.62%
4	Required Rate of Return	10.50%	10.50%	9.60%	9.60%
5	Required Operating Income (L4 * L1)	\$ 147,205	\$ 147,205	\$ 94,999	\$ 94,999
6	Operating Income Deficiency (L5 - L2)	\$ 187,220	\$ 187,220	\$ 111,003	\$ 111,003
7	Gross Revenue Conversion Factor	1.0000	1.0000	1.0000	1.0000
8	Required Revenue Increase (L7 * L6)	\$ 187,220	\$ 187,220	\$ 111,003	\$ 111,003
9	Adjusted Test Year Revenue	\$ 113,905	\$ 113,905	\$ 113,905	\$ 113,905
10	Proposed Annual Revenue (L8 + L9)	\$ 301,125	\$ 301,125	\$ 224,908	\$ 224,908
11	Required Increase in Revenue (%)	164.37%	164.37%	97.45%	97.45%
12	Rate of Return on Rate Base (%)	10.50%	10.50%	9.60%	9.60%

References:

Column (A): Company Schedule B-1  
Column (B): Company Schedule B-1  
Column (C): Staff Schedules JMM-WW2, JMM-WW8  
Column (D): Staff Schedules JMM-WW2, JMM-WW8

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Schedule JMM-WW2

**RATE BASE - ORIGINAL COST**

LINE NO.	(A) COMPANY AS FILED	(B) STAFF ADJUSTMENTS	REF	(C) STAFF AS ADJUSTED
1	Plant in Service	\$ 1,624,802		\$ 1,249,707
2	Less: Accumulated Depreciation	32,797	ADJ # 1	70,258
3	Net Plant in Service	<u>\$ 1,592,005</u>	ADJ # 2	<u>\$ 1,179,449</u>
<u>LESS:</u>				
4	Contributions in Aid of Construction (CIAC)	\$ -	ADJ # 3	\$ 197,973
5	Less: Accumulated Amortization	-		8,101
6	Net CIAC	<u>-</u>		<u>189,872</u>
7	Advances in Aid of Construction (AIAC)	197,973	(197,973) ADJ # 3	-
8	Customer Deposits	-	-	-
9	Deferred Income Tax Credits	-	-	-
<u>ADD:</u>				
10	Unamortized Finance Charges	-	-	-
11	Deferred Tax Assets	-	-	-
12	Working Capital	7,921	(7,921) ADJ # 4	-
13	<b>Original Cost Rate Base</b>	<u>\$ 1,401,953</u>	<u>\$ (412,377)</u>	<u>\$ 989,576</u>

References:

Column (A), Company Schedule B-1  
Column (B): Schedule JMM-WW3  
Column (C): Column (A) + Column (B)

**SUMMARY OF ORIGINAL COST RATE BASE ADJUSTMENTS**

LINE NO.	ACCT. NO.	DESCRIPTION	(A) COMPANY AS FILED	(B) PLANT IN SERVICE ADJ. NO. 1	(C) ACCUM. DEPREC. ADJ. NO. 2	(D) AIAC TO CIAC ADJ. NO. 3	(E) WORKING CAPITAL ADJ. NO. 4	(F) STAFF ADJUSTED
<u>PLANT IN SERVICE:</u>								
1		Organization	\$ -	\$ -	\$ -	-	\$ -	-
2	351	Franchises	-	-	-	-	-	-
3	352	Land and Land Rights	-	-	-	-	-	-
4	353	Structures & Improvements	105,000	-	-	-	-	105,000
5	354	Power Generation Equipment	56,350	-	-	-	-	56,350
6	355	Collection Sewers - Force	32,200	(29,321)	-	-	-	2,879
7	360	Collection Sewers - Gravity	-	-	-	-	-	-
8	361	Special Collecting Structures	280,553	-	-	-	-	280,553
9	362	Services to Customers	60,375	-	-	-	-	60,375
10	363	Flow Measuring Devices	-	-	-	-	-	-
11	364	Flow Measuring Installations	3,450	-	-	-	-	3,450
12	365	Receiving Wells	-	-	-	-	-	-
13	370	Pumping Equipment	-	-	-	-	-	-
14	371	Treatment and Disposal Equipment	-	-	-	-	-	-
15	380	Plant Sewers	1,106,874	(345,774)	-	-	-	761,100
16	381	Outfall Sewer Lines	-	-	-	-	-	-
17	382	Other Plant & Misc. Equipment	-	-	-	-	-	-
18	389	Office Furniture & Equipment	-	-	-	-	-	-
19	390	Transportation Equipment	-	-	-	-	-	-
20	391	Tools, Ship & Garage Equipment	-	-	-	-	-	-
21	393	Laboratory Equipment	-	-	-	-	-	-
22	394	Power Operated Equipment	-	-	-	-	-	-
23	395	Other Tangible Plant	-	-	-	-	-	-
24	398		-	-	-	-	-	-
25			-	-	-	-	-	-
26			1,624,802	(375,095)	-	-	-	1,249,707
27	Add:		-	-	-	-	-	-
28			-	-	-	-	-	-
29			-	-	-	-	-	-
30			-	-	-	-	-	-
31	Less:		-	-	-	-	-	-
32			-	-	-	-	-	-
33			-	-	-	-	-	-
34			-	-	-	-	-	-
35	Total Plant in Service		\$ 1,624,802	\$ (375,095)	\$ -	\$ -	\$ -	\$ 1,249,707
36	Less: Accumulated Depreciation		32,797	-	37,461	-	-	70,258
37			-	-	-	-	-	-
38	Net Plant in Service (L59 - L 60)		\$ 1,592,005	\$ (375,095)	\$ (37,461)	\$ -	\$ -	\$ 1,179,449
39			-	-	-	-	-	-
40	LESS:		-	-	-	-	-	-
41	Contributions in Aid of Construction (CIAC)		-	-	-	197,973	-	197,973
42	Less: Accumulated Amortization		-	-	-	8,101	-	8,101
43	Net CIAC (L25 - L26)		-	-	-	199,872	-	199,872
44	Advances in Aid of Construction (AIAC)		197,973	-	-	(197,973)	-	-
45	Customer Meter Deposits		-	-	-	-	-	-
46	Deferred Income Tax Credits		-	-	-	-	-	-
47			-	-	-	-	-	-
48	ADD:		-	-	-	-	-	-
49	Unamortized Finance Charges		-	-	-	-	-	-
50	Deferred Tax Assets		-	-	-	-	-	-
51	Working Capital		7,921	-	-	-	(7,921)	-
52			-	-	-	-	-	-
53	Original Cost Rate Base		\$ 1,401,953	\$ (375,095)	\$ (37,461)	\$ 8,101	\$ (7,921)	\$ 989,576

ADJ. #	References:
1	Schedule JMM-WW4
2	Schedule JMM-WW5
3	Schedule JMM-WW6
4	Schedule JMM-WW7

**RATE BASE ADJUSTMENT NO. 1 - PLANT ADJUSTMENTS**

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Power Generation Equipment (Account 355)	\$ 32,200	\$ (29,321)	\$ 2,879
2	Treatment and Disposal Equipment (Account 380)	1,106,874	(345,774)	761,100
3	Totals	<u>\$ 1,139,074</u>	<u>\$ (375,095)</u>	<u>\$ 763,979</u>
<u>Staff's Calculation of Power Generation Equipment (Account 355)</u>				
4	Removed \$29,321 double counted in Treatment and Disposal Equipment (Account 380)	<u>\$ (29,321)</u>		
<u>Staff's Calculation of Treatment and Disposal Equipment (Account 380)</u>				
5	Unsubstantiated costs of \$68,271 relating to Alta Mesa Construction	\$ (68,271)		
6	Removal of manmade water falls, streams, ponds and lakes	(178,231)		
7	Unsubstantiated costs of \$99,272 relating to Treatment Plant No. 2	(99,272)		
8	Total	<u>\$ (345,774)</u>		

References:

Column A: Company :

Column B: Testimony, JMM, Schedule JMM-WW3

Column C: Column [A] + Column [B]



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## RATE BASE ADJUSTMENT NO. 2 - ACCUMULATED DEPRECIATION

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
1	Accumulated Depreciation	\$ 32,797	\$ 37,461	\$ 70,258

ACCT	NO	DESCRIPTION	AT ENGINEER RECOMMENDED RATES			A.D	ADDITIONS	RETIREMENTS	PLT BAL	DEP EXP	A.D
			Total Plant Adjusted 12/31/2004	Recommended Rate	HALF YEAR DEP.						
2	351	Organization	-	-	-	-	-	-	-	-	-
3	352	Franchises	-	-	-	-	-	-	-	-	-
4	353	Land and Land Rights	105,000	0.00%	-	-	-	-	105,000	-	-
5	354	Structures & Improvements	56,350	3.33%	938	938	-	-	56,350	1,876	2,815
6	355	Power Generation Equipment	2,879	5.00%	72	72	-	-	2,879	144	216
7	360	Collection Sewers - Force	-	2.00%	-	-	-	-	-	-	-
8	361	Collection Sewers - Gravity	260,553	2.00%	2,606	2,606	-	-	260,553	5,211	7,817
9	362	Special Collecting Structures	-	2.00%	-	-	-	-	-	-	-
10	363	Services to Customers	60,375	2.00%	604	604	-	-	60,375	1,208	1,811
11	364	Flow Measuring Devices	-	10.00%	-	-	-	-	-	-	-
12	365	Flow Measuring Installations	3,450	10.00%	173	173	-	-	3,450	345	518
13	370	Receiving Wells	-	3.33%	-	-	-	-	-	-	-
14	371	Pumping Equipment	-	12.50%	-	-	-	-	-	-	-
15	380	Treatment and Disposal Equipment	761,100	5.00%	19,028	19,028	-	-	761,100	38,055	57,083
16	381	Plant Sewers	-	5.00%	-	-	-	-	-	-	-
17	382	Outfall Sewer Lines	-	3.33%	-	-	-	-	-	-	-
18	389	Other Plant & Misc. Equipment	-	6.67%	-	-	-	-	-	-	-
19	390	Office Furniture & Equipment	-	6.67%	-	-	-	-	-	-	-
20	391	Transportation Equipment	-	20.00%	-	-	-	-	-	-	-
21	393	Tools, Ship & Garage Equipment	-	5.00%	-	-	-	-	-	-	-
22	394	Laboratory Equipment	-	10.00%	-	-	-	-	-	-	-
23	395	Power Operated Equipment	-	5.00%	-	-	-	-	-	-	-
24	398	Other Tangible Plant	-	10.00%	-	-	-	-	-	-	-
25											
26			1,249,707		23,419	23,419	-	-	1,249,707	46,839	70,258
27											
28											

Composite Rate:

4.0918%

Depreciable Plant:

1,144,707

## References:

Column A: Company Schedule B-1, Page 1  
Column B: Testimony, JMM, Schedule JMM-WW3  
Column C: Column [A] + Column [B]

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Schedule JMM-WW6

**RATE BASE ADJUSTMENT NO. 3 - RECLASSIFICATION OF AIAC TO CIAC**

LINE NO.	DESCRIPTION	[A]		[B]		[C]	
		COMPANY AS FILED		STAFF ADJUSTMENTS		STAFF AS ADJUSTED	
1	Advances in Aid of Construction (AIAC)	\$	197,973	\$	(197,973)	\$	-
2	Contributions in Aid of Construction (CIAC)	\$	-	\$	189,872	\$	189,872
<u>Staff's amortization of CIAC</u>							
3	Amortization of CIAC:			\$	197,973		
4	Composite amortization rate (see JMM-WW5):				4.0918%		
5	Amortized CIAC:			\$	8,101		
6	Net CIAC:			\$	189,872		

References:

Column A: Company Schedule B-1, Page 1  
Column B: Testimony, JMM, Schedule JMM-WW3  
Column C: Column [A] + Column [B]

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Schedule JMM-WW7

**RATE BASE ADJUSTMENT NO. 4 - REMOVAL OF ALLOWANCE FOR CASH WORKING CAPITAL**

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Allowance for Cash Working Capital	\$ 7,921	\$ (7,921)	\$ -

References:

Column A: Company Schedule B-1, Page 1

Column B: Testimony, JMM, Schedule JMM-WW3

Column C: Column [A] + Column [B]

**OPERATING INCOME STATEMENT - ADJUSTED TEST YEAR AND STAFF RECOMMENDED**

LINE NO.	DESCRIPTION	[A] COMPANY ADJUSTED TEST YEAR AS FILED	[B] STAFF TEST YEAR ADJUSTMENTS	[C] STAFF TEST YEAR AS ADJUSTED	[D] STAFF PROPOSED CHANGES	[E] STAFF RECOMMENDED
1	<u>REVENUES:</u>					
2	Metered Water Sales	\$ 112,248	\$ -	\$ 112,248	\$ 111,003	\$ 223,251
3	Water Sales - Unmetered	-	-	-	-	-
4	Other Operating Revenue	1,657	-	1,657	-	1,657
5	<b>Total Operating Revenues</b>	<b>\$ 113,905</b>	<b>\$ -</b>	<b>\$ 113,905</b>	<b>\$ 111,003</b>	<b>\$ 224,908</b>
	<u>OPERATING EXPENSES:</u>					
6	Salaries and Wages	\$ -	\$ -	\$ -	\$ -	\$ -
7	Purchased Wastewater Treatment	-	-	-	-	-
8	Sludge Removal Expense	-	-	-	-	-
9	Purchased Power	17,423	-	17,423	-	17,423
10	Fuel for Power Production	-	-	-	-	-
11	Chemicals	3,945	-	3,945	-	3,945
12	Materials and Supplies	4,793	-	4,793	-	4,793
13	Contractual Services- Professional	1,195	-	1,195	-	1,195
14	Contractual Services- Testing	20,472	-	20,472	-	20,472
15	Contractual Services- Other	15,000	-	15,000	-	15,000
16	Repairs and Maintenance	-	-	-	-	-
17	Waste Water Testing Expense	-	4,430	4,430	-	4,430
18	Rents	-	-	-	-	-
19	Transportation Expenses	-	-	-	-	-
20	Insurance	-	-	-	-	-
21	Regulatory Commission Expense - Rate Case	12,500	-	12,500	-	12,500
22	Miscellaneous Expense	5,465	(500)	4,965	-	4,965
23	Depreciation Expense	65,594	(26,856)	38,738	-	38,738
24	Taxes Other Than Income	-	-	-	-	-
25	Property Taxes	7,533	(1,086)	6,447	-	6,447
26	Income Tax	-	-	-	-	-
27						
28	<b>Total Operating Expenses</b>	<b>\$ 153,920</b>	<b>\$ (24,011)</b>	<b>\$ 129,909</b>	<b>\$ -</b>	<b>\$ 129,909</b>
29	<b>Operating Income (Loss)</b>	<b>\$ (40,015)</b>	<b>\$ 24,011</b>	<b>\$ (16,004)</b>	<b>\$ 111,003</b>	<b>\$ 94,999</b>

References:

Column (A): Company Schedule C-1  
Column (B): Schedule JMM-WW9  
Column (C): Column (A) + Column (B)  
Column (D): Schedules JMM-WW1  
Column (E): Column (C) + Column (D)

**SUMMARY OF OPERATING INCOME STATEMENT ADJUSTMENTS - TEST YEAR**

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] ADJ #1 Misc. Expense	[C] ADJ #2 Waste Water Testing	[D] ADJ #3 Depreciation Exp	[D] ADJ #4 Property Tax	[E] STAFF ADJUSTED
1	<b>REVENUES:</b>						
2	Fiat Rate and Metered Revenues	112,248	-	-	-	-	112,248
3	Misc. Service Revenues	-	-	-	-	-	-
4	Other Wastewater Revenues	1,657	-	-	-	-	1,657
5	<b>Total Operating Revenues</b>	<b>113,905</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>113,905</b>
6	<b>OPERATING EXPENSES:</b>						
7	Salaries and Wages	-	-	-	-	-	-
8	Purchased Wastewater Treatment	-	-	-	-	-	-
9	Sludge Removal Expense	-	-	-	-	-	-
10	Purchased Power	17,423	-	-	-	-	17,423
11	Fuel for Power Production	-	-	-	-	-	-
12	Chemicals	3,945	-	-	-	-	3,945
13	Materials and Supplies	4,793	-	-	-	-	4,793
14	Contractual Services- Professional	1,195	-	-	-	-	1,195
15	Contractual Services- Testing	20,472	-	-	-	-	20,472
16	Contractual Services- Other	15,000	-	-	-	-	15,000
17	Repairs and Maintenance	-	-	-	-	-	-
18	Waste Water Testing Expense	-	-	4,430	-	-	4,430
19	Rents	-	-	-	-	-	-
20	Transportation Expenses	-	-	-	-	-	-
21	Insurance	-	-	-	-	-	-
22	Regulatory Commission Expense - Rate Case	12,500	-	-	-	-	12,500
23	Miscellaneous Expense	5,465	(500)	-	-	-	4,965
24	Depreciation Expense	65,594	-	-	(26,856)	-	38,738
25	Taxes Other Than Income	-	-	-	-	-	-
26	Property Taxes	7,533	-	-	(1,086)	(1,086)	6,447
27	Income Tax	-	-	-	-	-	-
28	<b>Total Operating Expenses</b>	<b>153,920</b>	<b>(500)</b>	<b>4,430</b>	<b>(27,941)</b>	<b>(1,086)</b>	<b>129,909</b>
29	<b>Operating Income (Loss)</b>	<b>(40,014)</b>	<b>500</b>	<b>(4,430)</b>	<b>27,941</b>	<b>1,086</b>	<b>(16,004)</b>

ADJ #		References:
1	Miscellaneous Expense	Schedule JMM-WW10
2	Waste Water Testing Expense	Schedule JMM-WW11
3	Depreciation Expense	Schedule JMM-WW12
4	Property Taxes	Schedule JMM-WW13

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Schedule JMM-WW10

OPERATING EXPENSE ADJUSTMENT # 1 - MISCELLANEOUS EXPENSE

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Miscellaneous expense	\$ 5,465	\$ (500)	\$ 4,965

Staff's Calculation of Miscellaneous Expense

Disallowed PAD application fee for CC&N extension dated 4/2006, outside test year

\$ (500)

References:

Column A: Company Schedule C-1

Column B: Testimony, JMM, Schedule JMM-WW9

Column C: Column [A] + Column [B]

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Schedule JMM-WW11

**OPERATING EXPENSE ADJUSTMENT # 2 - WASTE WATER TESTING EXPENSE**

LINE NO.	DESCRIPTION	[A]	[B]	[C]
		COMPANY AS FILED	STAFF ADJUSTMENTS	STAFF AS ADJUSTED
1	Waste Water Testing Expense	\$ -	\$ 4,430	\$ 4,430

References:

Column A: Company Schedule C-1

Column B: Testimony, JMM, Schedule JMM-WW9

Column C: Column [A] + Column [B]

**OPERATING EXPENSE ADJUSTMENT NO. 3 - DEPRECIATION EXPENSE**

LINE NO.	DESCRIPTION	[A] COMPANY AS FILED	[B] STAFF ADJUSTMENTS	[C] STAFF AS ADJUSTED
----------	-------------	-------------------------	--------------------------	--------------------------

1	Depreciation Expense	\$	65,594	\$	(26,856)	\$	38,738
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ACCT	NO	DESCRIPTION	AT ENGINEER RECOMMENDED RATES		A/D	ADDITIONS	RETIREMENTS	PLT BAL	DEP EXP	A/D
			Total Plant Staff Adjusted 12/31/2004	Recommended Rate HALF YEAR DEP.						
2	351	Organization	-	-	-	-	-	-	-	-
3	352	Franchises	-	-	-	-	-	-	-	-
4	353	Land and Land Rights	105,000	0.00%	-	-	-	105,000	-	-
5	354	Structures & Improvements	56,350	3.33%	938	-	-	56,350	1,876	2,815
6	355	Power Generation Equipment	2,879	5.00%	72	-	-	2,879	144	216
7	360	Collection Sewers - Force	-	2.00%	-	-	-	-	-	-
8	361	Collection Sewers - Gravity	260,553	2.00%	2,606	-	-	260,553	5,211	7,817
9	362	Special Collecting Structures	-	2.00%	-	-	-	-	-	-
10	363	Services to Customers	60,375	2.00%	604	-	-	60,375	1,208	1,811
11	364	Flow Measuring Devices	-	10.00%	-	-	-	-	-	-
12	365	Flow Measuring Installations	3,450	10.00%	173	-	-	3,450	345	518
13	370	Receiving Wells	-	3.33%	-	-	-	-	-	-
14	371	Pumping Equipment	-	12.50%	-	-	-	-	-	-
15	380	Treatment and Disposal Equipment	761,100	5.00%	19,028	-	-	761,100	38,055	57,083
16	381	Plant Sewers	-	5.00%	-	-	-	-	-	-
17	382	Outfall Sewer Lines	-	3.33%	-	-	-	-	-	-
18	389	Other Plant & Misc. Equipment	-	6.67%	-	-	-	-	-	-
19	390	Office Furniture & Equipment	-	6.67%	-	-	-	-	-	-
20	391	Transportation Equipment	-	20.00%	-	-	-	-	-	-
21	393	Tools, Ship & Garage Equipment	-	5.00%	-	-	-	-	-	-
22	394	Laboratory Equipment	-	10.00%	-	-	-	-	-	-
23	395	Power Operated Equipment	-	5.00%	-	-	-	-	-	-
24	398	Other Tangible Plant	-	10.00%	-	-	-	-	-	-
25										
26										
			1,249,707		23,419	-	-	1,249,707	46,839	70,258

Depreciable Plant: 1.144.707

Composite Rate: 4.0918%

**Depreciation Expense Calculation:**

Depreciation Expense Calculation:

Depreciation 2005:	46,839
--------------------	--------

Depreciation 2003:

Net Amortization of CIAC:

Depreciation Expense: 38,738

References:

**References:**

Column B: Company Schedules B-1, Page 1  
Column B: Testimony: JMM- Schedule JMM-WW9

Column C: Column [A] + Column [B]



OPERATING EXPENSE ADJUSTMENT NO. 4 - PROPERTY TAX

LINE NO.		[A] COMPANY AS FILED	[B] STAFF ADJUSTMENT	(C) STAFF AS ADJUSTED
1	Property Taxes	\$ 7,533	\$ (1,086)	\$ 6,447
	<u>Staff's Calculation of Property Tax</u>			
2	Staff Adjusted Test Year Revenues - 2002			\$ 113,905
3	Weight Factor			2
4	Subtotal (Line 1 * Line 2)			227,810
5	Staff Recommended Revenue, Per Schedule JMM-WW1			224,908
6	Subtotal (Line 4 + Line 5)			452,718
7	Number of Years			3
8	Three Year Average (Line 5 / Line 6)			150,906
9	Department of Revenue Multiplier			2
10	Revenue Base Value (Line 7 * Line 8)			301,812
11	Plus: 10% of CWIP - 2002			-
12	Less: Net Book Value of Licensed Vehicles			-
13	Full Cash Value (Line 9 + Line 10 - Line 11)			301,812
14	Assessment Ratio			23.50%
15	Assessment Value (Line 12 * Line 13)			70,926
16	Composite Property Tax Rate (Per Company Schedule C-2, Page 3, Line 16)			9.0903%
17	Staff Proposed Property Tax Expense (Line 14 * Line 15)			\$ 6,447
18	Company Proposed Property Tax			7,533
19	Increase/(Decrease) to Property Tax Expense			\$ (1,086)

References:

Column A: Company Schedule B-1, Page 1  
Column B: Testimony, JMM, Schedule JMM-WW9  
Column C: Column [A] + Column [B]

## RATE DESIGN

Monthly Minimum Charge	Present Rates	Company Proposed Rates	Staff Recommended Rates
Rate per 1,000 gal. water usage			
Residential	\$ 2.73	\$ 7.28	\$ 5.58
Car washes, Laundromats, commercial, manufacturing	2.67	7.12	5.45
Hotels and Motels	3.58	9.55	7.31
Restaurants	4.42	11.79	9.03
Industrial Laundries	3.92	10.45	8.01
Waste Haulers	80.00	213.36	163.44
Restaurant Grease	70.00	186.69	143.01
Treatment Plant Sludge	80.00	213.36	163.44
Mud Sump Waste	250.00	666.75	510.75
<b>Service Charges</b>			
Establishment	\$ 20.00	\$ 20.00	\$ 20.00
Establishment of Services after hours	40.00	40.00	40.00
Re-establishment of Service	*	*	*
Reconnection Services	50.00	50.00	50.00
Reconnection (Delinquent and After Hours)	40.00	40.00	40.00
Minimum Deposit Requirement	**	**	**
Deposit Interest	3.00%	3.00%	Per Rule
Charges for NSF Check	20.00	20.00	20.00
Deferred Payment Finance Charge	1.50%	1.50%	***
Late Payment, Per Month	***	***	***
Service Calls, per hour (After hours only)	40.00	40.00	40.00
Service Lateral Connection Charge:			
Residential	500.00	500.00	500.00
Commercial	Cost	Cost	Cost
Main Extension Tariff	Cost	Cost	Cost

- \* Per Commission Rule R14-2-603(D)
- \*\* Per Commission Rule R14-2-603(B)
- \*\*\* Per Commission Rule R14-2-608(F)

**Typical Bill Analysis**  
General Service 3/4-Inch Meter

Company Proposed	Gallons	Present Rates	Proposed Rates	Dollar Increase	Percent Increase
Average Usage	4,740	\$ 12.94	\$ 34.51	\$ 21.57	166.67%
Median Usage	4,500	12.29	32.76	\$ 20.48	166.67%
<b>Staff Recommended</b>					
Average Usage	4,740	\$ 12.94	\$ 26.44	\$ 13.50	104.30%
Median Usage	4,500	12.29	25.10	\$ 12.81	104.30%

**Present & Proposed Rates (Without Taxes)**  
General Service 3/4-Inch Meter

Gallons Consumption	Present Rates	Company Proposed Rates	% Increase	Staff Recommended Rates	% Increase
-	\$ -	\$ -	-	\$ -	-
1,000	2.73	7.28	166.67%	5.58	104.30%
2,000	5.46	14.56	166.67%	11.15	104.30%
3,000	8.19	21.84	166.67%	16.73	104.30%
4,000	10.92	29.12	166.67%	22.31	104.30%
5,000	13.65	36.40	166.67%	27.89	104.30%
6,000	16.38	43.68	166.67%	33.46	104.30%
7,000	19.11	50.96	166.67%	39.04	104.30%
8,000	21.84	58.24	166.67%	44.62	104.30%
9,000	24.57	65.52	166.67%	50.20	104.30%
10,000	27.30	72.80	166.67%	55.77	104.30%
11,000	30.03	80.08	166.67%	61.35	104.30%
12,000	32.76	87.36	166.67%	66.93	104.30%
13,000	35.49	94.64	166.67%	72.51	104.30%
14,000	38.22	101.92	166.67%	78.08	104.30%
15,000	40.95	109.20	166.67%	83.66	104.30%
16,000	43.68	116.48	166.67%	89.24	104.30%
17,000	46.41	123.76	166.67%	94.82	104.30%
18,000	49.14	131.04	166.67%	100.39	104.30%
19,000	51.87	138.32	166.67%	105.97	104.30%
20,000	54.60	145.60	166.67%	111.55	104.30%
25,000	68.25	182.00	166.67%	139.43	104.30%
30,000	81.90	218.40	166.67%	167.32	104.30%
35,000	95.55	254.80	166.67%	195.21	104.30%
40,000	109.20	291.20	166.67%	223.10	104.30%
45,000	122.85	327.60	166.67%	250.98	104.30%
50,000	136.50	364.00	166.67%	278.87	104.30%
75,000	204.75	546.00	166.67%	418.30	104.30%
100,000	273.00	728.00	166.67%	557.74	104.30%

**BEFORE THE ARIZONA CORPORATION COMMISSION**

JEFF HATCH-MILLER  
Chairman  
WILLIAM A. MUNDELL  
Commissioner  
MIKE GLEASON  
Commissioner  
KRISTIN K. MAYES  
Commissioner  
GARY PIERCE  
Commissioner

IN THE MATTER OF THE APPLICATION OF ) DOCKET NO. WS-04325A-06-0303  
UTILITY SOURCE, L.L.C. FOR A )  
DETERMINATION OF THE CURRENT FAIR )  
VALUE OF ITS UTILITY PROPERTY )  
AND FOR AN INCREASE IN ITS WATER )  
AND WASTEWATER RATES AND CHARGES )  
FOR UTILITY SERVICES )

DIRECT  
TESTIMONY  
OF  
STEVEN P. IRVINE  
PUBLIC UTILITIES ANALYST III  
UTILITIES DIVISION  
ARIZONA CORPORATION COMMISSION

JANUARY 19, 2007

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**EXECUTIVE SUMMARY  
UTILITY SOURCE, L.L.C.  
DOCKET NO. WS-004235A-06-0303**

The direct testimony of Staff witness Steven P. Irvine addresses the following issues:

Capital Structure – Staff recommends that the Arizona Corporation Commission (“Commission”) adopt a capital structure for Utility Source, L.L.C. (“Utility Source” or “Company”) for this proceeding consisting of 0 percent debt and 100 percent equity.

Cost of Equity – Staff’s 9.6 percent estimated return on equity (“ROE”) for the Company is based on cost of equity estimates for the sample companies ranging from 9.0 percent using the discounted cash flow method (“DCF”) to 10.2 percent using the capital asset pricing model (“CAPM”).

Overall Rate of Return – Staff recommends that the Commission adopt an overall rate of return (“ROR”) of 9.6 percent.

Mr. Bourassa’s Testimony – The Commission should reject the 10.5 percent ROE proposed by Utility Source for the following reasons:

1. Mr. Bourassa’s DCF estimates rely exclusively on analysts’ forecasts. In addition, Mr. Bourassa’s DCF constant growth analysis does not include dividend growth.
2. Mr. Bourassa’s risk premium analysis is not market based and relies on forecasted interest rates for 10-year Treasuries for 2007-2008.

**I. INTRODUCTION**

**Q. Please state your name, occupation, and business address.**

A. My name is Steve Irvine. I am a Public Utilities Analyst III employed by the Arizona Corporation Commission ("ACC" or "Commission") in the Utilities Division ("Staff"). My business address is 1200 West Washington Street, Phoenix, Arizona 85007.

**Q. Briefly describe your responsibilities as a Public Utilities Analyst.**

A. In my capacity as a Public Utilities Analyst III I conduct studies to estimate the cost of equity capital, perform analyses of debt costs and compute the overall rate of return in rate proceedings. I also design rates to generate the revenue requirement in rate proceedings.

**Q. Please describe your educational background and professional experience.**

A. In 1994, I graduated from Arizona State University, receiving a Bachelor of Science degree in Business Marketing. In 1997, I received a Masters degree in Public Administration from Arizona State University. I began employment with the Commission in May of 2001 and have worked in the Utilities Division since September of 2002.

**Q. What is the scope of your testimony in this case?**

A. My testimony provides Staff's recommended rate of return for Utility Source, L.L.C. ("Utility Source" or "Company") in this case.

**Summary of Testimony and Recommendations**

**Q. Briefly summarize how Staff's cost of capital testimony is organized.**

A. Staff's cost of capital testimony is presented in ten sections. Section I is this introduction. Section II discusses the concept of weighted average cost of capital ("WACC"). Section



1        III presents the concept of capital structure and presents Staff's recommended capital  
2        structure for Utility Source in this proceeding. Section IV discusses the concepts of return  
3        on equity ("ROE") and risk. Section V presents the methods employed by Staff to  
4        estimate Utility Source's ROE. Section VI presents the findings of Staff's ROE analysis.  
5        Section VII presents Staff's final cost of equity estimates for Utility Source. Section VIII  
6        presents Staff's rate of return ("ROR") recommendation for Utility Source. Section IX  
7        presents Staff's comments on the direct testimony of Utility Source's witness, Mr.  
8        Thomas J. Bourassa. Finally, Section X summarizes Staff's recommendations.

9  
10    **Q.    Briefly summarize Staff's proposed capital structure, return on equity and overall**  
11    **rate of return for Utility Source in this proceeding.**

12    A.    Staff recommends a 9.6 percent overall ROR. Staff's recommended ROR reflects a  
13    capital structure composed of 0 percent debt and 100 percent equity, a 9.6 percent ROE  
14    for the Company based on cost of equity estimates for the sample companies ranging from  
15    9.0 percent using the discounted cash flow method ("DCF") to 10.2 percent using the  
16    capital asset pricing model ("CAPM"). Staff's recommended 9.6 percent ROR is  
17    calculated in Schedule SPI-1.

18  
19    **Q.    Briefly summarize Utility Source's proposed capital structure, return on equity and**  
20    **overall rate of return for this proceeding.**

21    A.    The Company proposes a capital structure that consists of 100 percent equity and 0  
22    percent debt. Since the Company is not proposing any debt financing, its proposed ROR  
23    is equal to its ROE at 10.5 percent. Table I summarizes Utility Source's proposed capital  
24    structure and costs.

**Table 1**

	<b>Weight</b>	<b>Cost</b>	<b>Weighted Cost</b>
Long-term Debt	0.0%	0.0%	0.0%
Common Equity	100.0%	10.5%	<u>10.5%</u>
<b>Cost of Capital/ROR</b>			<b><u>10.5%</u></b>

**II. THE WEIGHTED AVERAGE COST OF CAPITAL**

**Q. Please explain the term cost of capital.**

A. Cost of capital is the opportunity cost of an investment. For an investor it is the rate of return that one would expect to earn in investments with risk similar to the investment being considered. One can invest in a company through a variety of securities such as stock, bonds, and debt. The cost of capital to a company issuing a variety of securities is an average of the expected returns on the securities the company has issued weighted according to the size of each security relative to the company's entire security portfolio. This total cost of capital is referred to as the weighted average cost of capital ("WACC"). While a company may determine the size of the dividends it pays or offer debt at particular rates at its own discretion, in a competitive market, the market determines the expected return on its equity capital. Equity investors are attracted to an equity investment when the expected returns are similar to those of other entities with similar risk. That is, the cost of equity capital is determined by the market.

1 **Q. What is the WACC formula?**

2 A. The WACC formula is as follows:

3 Equation 1

4 
$$\text{WACC} = \sum_{i=1}^n W_i * r_i$$

5

6

7 In this equation,  $W_i$  is the weight given to the  $i^{\text{th}}$  security (the proportion of the  $i^{\text{th}}$  security  
8 relative to the portfolio) and  $r_i$  is the expected return on the  $i^{\text{th}}$  security.

9

10 **Q. Please provide an example of a hypothetical capital structure demonstrating**  
11 **application of Equation 1.**

12 A. For purposes of this example, assume that an entity has a capital structure composed of 70  
13 percent debt and 30 percent equity. Also, assume that the embedded cost of debt is 7.0  
14 percent and the expected return on equity, i.e. the cost of equity, is 10.0 percent.  
15 Calculation of the WACC is as follows:

16 
$$\text{WACC} = (70\% * 7.0\%) + (30\% * 10.0\%)$$

17 
$$\text{WACC} = 4.90\% + 3.00\%$$

18 
$$\text{WACC} = 7.90\%$$

19

20 The weighted average cost of capital in this example is 7.90 percent. The entity in this  
21 example would need to earn an overall rate of return of 7.90 percent to cover its cost of  
22 capital.

### III. CAPITAL STRUCTURE

#### Background

**Q. Please explain the capital structure concept.**

A. While WACC describes the average unit cost of capital employed from a company's various securities, capital structure describes the relative proportions of each type of security (capital leases, long-term debt, short-term debt, preferred stock, and common stock). As the proportion of the capital structure represented by fixed obligation financing increases (increased leverage), risk associated with the ability to meet financial obligations (financial risk) increases.

**Q. How is the capital structure for a given company described?**

A. A company's capital structure is described by simply stating the percentage of each component of the capital structure relative to the whole capital structure. The following is an example of a hypothetical capital structure. Assume that the capital structure for an entity that is financed by \$10,000 of capital leases, \$30,000 of long-term debt, \$5,000 of short-term debt, \$10,000 of preferred stock and \$45,000 of common stock. The capital structure for the company is shown in Table 2.

**Table 2**

Component			%
Capital Leases	\$10,000	(\$10,000/\$100,000)	10.0%
Long-Term Debt	\$30,000	(\$30,000/\$100,000)	30.0%
Short-Term Debt	\$5,000	(\$5,000/\$100,000)	5.0%
Preferred Stock	\$10,000	(\$10,000/\$100,000)	10.0%
Common Stock	\$45,000	(\$45,000/\$100,000)	45.0%
Total	\$100,000		100%

1 The capital structure in this example is composed of 10.0 percent capital leases, 30.0  
2 percent long-term debt, 5.0 percent short-term debt, 10.0 percent preferred stock and 45.0  
3 percent common stock.  
4

5 **Utility Source's Capital Structure**

6 **Q. What capital structure does Utility Source propose?**

7 A. The Company recommends a capital structure with 0 percent debt and 100 percent equity.  
8 Schedule D-1 of the application describes that stockholder's equity in the Company was  
9 \$3,383,299 during the test year and that there was no long term debt.  
10

11 **Q. What capital structure does Staff recommend for Utility Source?**

12 A. Staff recommends a capital structure composed of 100 percent equity and 0 percent debt  
13 as shown in Schedules SPI-1.  
14

15 **Q. How does Utility Source's capital structure compare to capital structures of publicly  
16 traded water utilities?**

17 A. The average capital structure of the six publicly traded water companies ("sample  
18 companies") is 51.4 percent debt and 48.6 percent equity. The capital structure for each of  
19 the sample companies is shown in Schedule SPI-3.  
20

21 **Q. Does Staff discuss the matter of a cost of equity adjustment as it relates to capital  
22 structure differences between Utility Source and the sample water companies?**

23 A. Yes. This matter is discussed in Section VII, Final Cost of Equity Estimates for Utility  
24 Source.

**IV. RETURN ON EQUITY**

**Background**

**Q. Please define the term cost of equity.**

A. Cost of equity is the compensation that investors expect for bearing the risk of ownership of a stock. The return that investors expect for a given stock is equivalent to the expected returns of other firms with equivalent risk. Investors can expect a given stock's return to be similar to returns of other stocks with equivalent levels of risk as investors can simply select the other stocks as an alternative. Investors are likely to do so if there are other stocks available with similar levels of risk and higher returns. Cost of equity is therefore determined by the market given the prevailing market conditions.

**Q. Can the cost of equity for Utility Source be determined by market data related to its stock and earnings?**

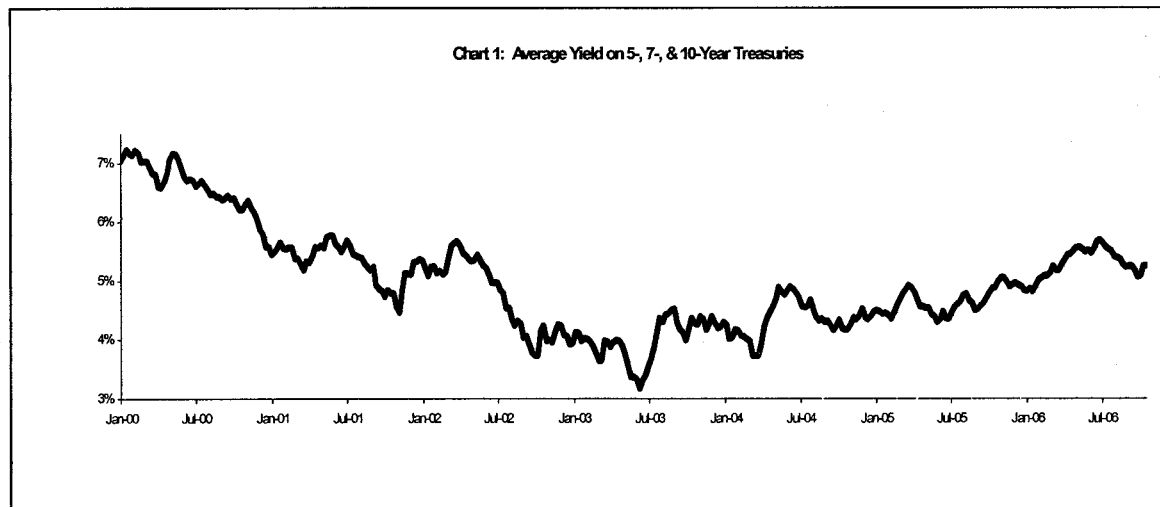
A. As Utility Source's stock is not publicly traded, its cost of equity cannot be estimated directly. As stated previously, investors expect returns equivalent to the returns of stocks with equivalent risk. As a proxy for Utility Source's own market data, Staff has estimated Utility Source's cost of equity using market data from six publicly traded water utilities.

**Q. Do interest rates affect cost of equity?**

A. Yes. According to the CAPM, the direction of change in interest rates is an indicator of the direction of change in cost of equity. The CAPM is a market based model used for cost of capital estimation that Staff employs to estimate Utility Source's cost of equity. The CAPM model is discussed in greater detail in Section V of this testimony.

1 **Q. What has been the general trend in interest rates in recent years?**

2 A. U.S. treasury rates from November 2000 to 2006 are shown in Chart 1. The chart shows  
3 that the rates in this timeframe generally declined until mid 2003 and have on average  
4 risen somewhat since that time.

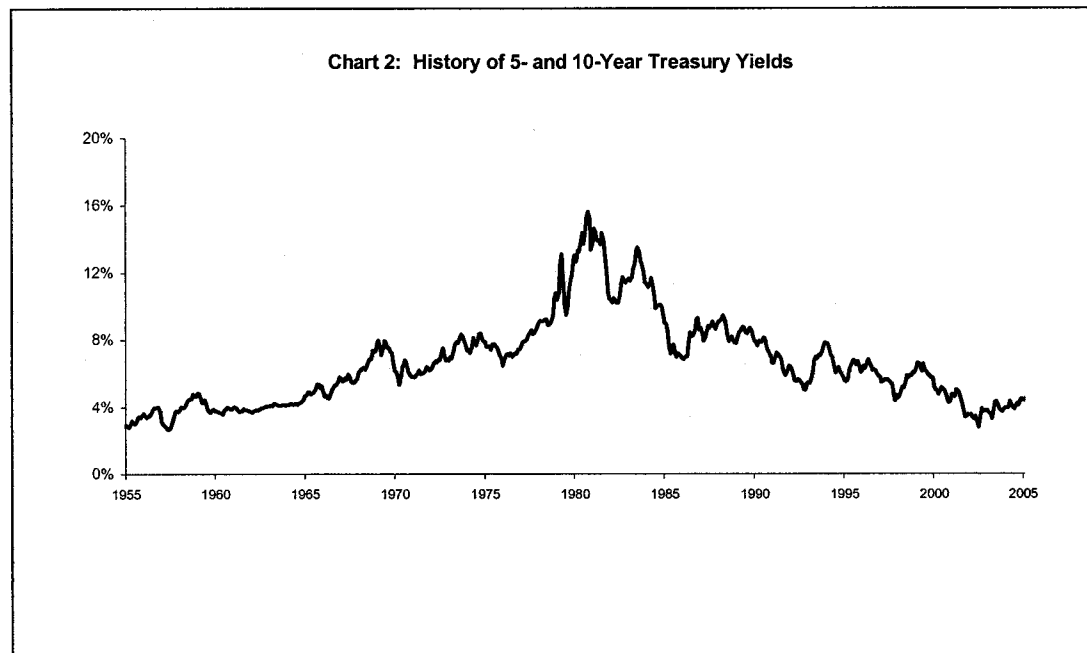


14 Source: Federal Reserve

15

16 **Q. What has been the general trend in interest rates in the long-term?**

17 A. U.S. treasury rates from 1955 to present are shown in Chart 2. The chart demonstrates  
18 that in that period rates rose on average until the 1980's and have fallen on average since  
19 that time.



12 Source: Federal Reserve

13

14 **Q. What do these trends suggest for cost of equity?**

15 A. As mentioned previously, interest rates generally have a positive relationship with cost of

16 capital. As a result, cost of equity has declined significantly in the past 25 years.

17

18 **Risk**

19 **Q. Please define risk as it relates to cost of capital.**

20 A. Risk is uncertainty that results from the variability of returns from an investment. Greater

21 variability results in greater risk. Because investors are generally averse to risk,

22 investments with greater inherent risk must promise higher expected yields.<sup>1</sup> Risk can be

23 separated into two components: market risk and non-market risk. Market risk can also be

---

<sup>1</sup> Scott, David L. Wall Street Words, revised edition. Houghton Mifflin Company. Boston. 1988. p. 324.



1 referred to as systematic or non-diversifiable risk. Non-market risk can also be referred to  
2 as unique or diversifiable risk.

3  
4 **Q. What is market risk?**

5 A. Market risk is risk which results from forces that affect the entire market. Examples of  
6 forces that contribute to market risk include but are not limited to: inflation, interest rates,  
7 general business cycles, international incidents, and war. Each of these forces impacts the  
8 entire market. An investor cannot eliminate market risk by holding a diverse portfolio as  
9 market risk affects all stocks. While market risk affects all stocks, the degree to which  
10 market risk affects an individual stock's returns varies. The sensitivity of a given stock's  
11 returns relative to the whole market is measured by the indicator beta. Beta reflects both  
12 the business risk and financial risk of a firm. As beta is a component of the CAPM model,  
13 it is discussed in greater detail in Section V of this testimony.

14  
15 **Q. What is business risk?**

16 A. Business risk is that risk which is associated with the fluctuation in earnings due to the  
17 basic nature of a firm's business. Companies in the same line of business experience the  
18 same business risk associated with earning cycles for that line of business. Business risk  
19 affects cost of equity.

20  
21 **Q. What is financial risk?**

22 A. Financial risk is the risk that results from a company's reliance on debt financing.  
23 Financial risk affects cost of equity. Firms whose capital is highly leveraged have greater  
24 exposure related to the ability to service debt. As leverage increases, risk also increases.  
25 This increase in risk results in an increase in cost of equity.

1 **Q. What is non-market risk?**

2 A. Non-market risk, or firm-specific risk, is risk that results from forces which are firm  
3 specific, or singular to a firm. Examples of forces that contribute to non-market risk  
4 include but are not limited to: strikes, lawsuits, failure of a product line, and loss of a  
5 client. Different firms experience their own unique, or non-market, risks. By holding a  
6 diverse portfolio an individual investor can eliminate non-market risk.

7  
8 **Q. Do market and non-market risk affect cost of equity?**

9 A. Market risk does affect cost of equity. Because non-market risk is diversifiable, investors  
10 cannot expect to be compensated for non-market risk, i.e., non-market risk does not affect  
11 cost of equity.

12  
13 **V. ESTIMATING THE COST OF EQUITY**

14 **Introduction**

15 **Q. Did Staff directly estimate Utility Source's cost of equity?**

16 A. No. As Utility Source is not a publicly traded company, financial metrics needed to  
17 directly estimate Utility Source's cost of equity are not available. For this reason, Staff  
18 used market information from six publicly traded water companies as a proxy for the  
19 financial metrics needed to estimate Utility Source's cost of equity. Data from the proxy  
20 companies is averaged in Staff's analysis. Relying on averaged data from a sample group  
21 as a proxy has the beneficial effect of reducing sample error associated with variance  
22 present at the instant in time from which the financial metrics are selected.

1 **Q. What companies did Staff select as proxies or comparables for Utility Source?**

2 A. Staff's sample consisted of: American States Water, California Water, Connecticut Water  
3 Services, Middlesex Water, Aqua America, and SJW Corp. These companies were  
4 selected as they are publicly traded and a significant portion of their revenues come from  
5 regulated operations. Utility Source's analysis is based on these same sample companies.  
6

7 **Q. What models did Staff implement to estimate Utility Source's cost of equity?**

8 A. Staff's estimate of the cost of equity is based the DCF and the CAPM.  
9

10 **Q. Why did Staff choose to base its analysis on the DCF and CAPM?**

11 A. Staff chose these models as they are widely recognized market based models for  
12 estimating the cost of equity. Since the cost of equity is determined by the market, use of  
13 market based models is appropriate. These models are explained in the following sections  
14 of this testimony.  
15

16 **Discounted Cash Flow Model Analysis**

17 **Q. Please provide a brief summary of the theory upon which the DCF method of**  
18 **estimating the cost of equity is based.**

19 A. The DCF method of stock valuation is based on the theory that an investment's current  
20 value is equal the discounted sum of the future revenues generated from the investment.  
21 Professor Myron Gordon pioneered the use of the DCF method to estimate the cost of  
22 capital for a public utility in the 1960's. This model is widely used due to its theoretical  
23 merit and simplicity. The DCF formula calculates the cost of capital using expected  
24 dividends, market price, and a dividend growth rate. This process is applied to each of the

1 sample companies and the results are averaged to determine an estimated cost of capital  
2 for the subject company.

3  
4 **Q. Are alternative growth rate models used in Staff's application of the DCF?**

5 A. Yes. Staff uses two versions of the DCF. In one version, Staff uses a single continuous  
6 growth rate. This is referred to as the constant growth DCF. In the second version Staff  
7 uses a two-stage growth rate that assumes that dividend growth will change in the future.  
8 This second model is referred to as the multi-stage or non-constant growth DCF.

9  
10 **The Constant-Growth DCF**

11 **Q. What is the mathematical formula used in Staff's constant-growth DCF analysis?**

12 A. The constant-growth DCF formula used in Staff's analysis is as follows:

Equation 2:

$$K = \frac{D_1}{P_0} + g$$

where:  $K$  = the cost of equity  
 $D_1$  = the expected annual dividend  
 $P_0$  = the current stock price  
 $g$  = the expected infinite annual growth rate of dividends

13 This formula assumes that the company has a constant earnings retention rate and that its  
14 earnings will continue to grow at a single constant rate. According to this equation, a  
15 stock with a current market price of \$10 per share, an expected annual dividend of \$0.60  
16 per share and an expected dividend growth rate of 4.0 percent per year has a cost of equity  
17 of 10.0 percent. This is calculated as follows: (\$0.60/\$10 or 6.0 percent) + (4.0 percent) =  
18 10 percent.

1 **Q. How did Staff select the dividend yield components  $D_1$  and  $P_0$  in the constant-growth**  
2 **DCF formula?**

3 A. Staff used the expected annual dividend<sup>2</sup> ( $D_1$ ) and stock price ( $P_0$ ) at the close of the  
4 market on October 25, 2006, as reported by *MSN Money*.

5  
6 **Q. Why did Staff use the October 25, 2006 spot stock price rather than a historical**  
7 **average stock price to calculate the dividend yield component of the DCF formula?**

8 A. Current rather than historic spot price is used in order to be consistent with financial  
9 theory. According to the efficient market hypothesis, current stock prices reflect all  
10 available information. This includes investors' current expectations of future returns.  
11 Consequently, current stock price is the best indicator of those expectations. Use of a  
12 historical average of stock prices illogically discounts the most recent information in favor  
13 of less recent information. The latter is stale and is representative of underlying  
14 conditions that may have changed.

15  
16 **Q. How did Staff estimate the dividend growth ( $g$ ) component of the constant-growth**  
17 **DCF model represented by Equation 2?**

18 A. The growth component used by Staff is determined by averaging six different estimation  
19 methods. The results are shown in Schedule SPI-7. Staff calculated both historical and  
20 projected growth estimates on dividend-per-share ("DPS")<sup>3</sup>, earnings-per-share ("EPS")<sup>4</sup>  
21 and sustainable growth bases.

---

<sup>2</sup> *Value Line* Summary & Index. October 20, 2006

<sup>3</sup> Derived from information provided by *Value Line*

<sup>4</sup> Derived from information provided by *Value Line*

1   **Q.     Why did Staff include EPS growth in estimation of the dividend growth component**  
2   **of the constant-growth DCF model?**

3   A.     Historic and projected EPS are considered in the constant-growth DCF model as dividends  
4           are related to earnings. While dividend payouts are not necessarily determined by a given  
5           constant proportion to earnings, dividends cannot exceed earnings indefinitely. In the  
6           long term, dividend payouts are dependent on earnings.

7  
8   **Q.     How did Staff calculate historical DPS growth?**

9   A.     Staff calculated historical DPS growth by averaging DPS growth of the sample water  
10           utilities from 1996 to 2005. These averages are shown on Schedule SPI-4. Staff's  
11           analysis indicates an average historical growth rate of 2.7 for the sample water utilities.

12  
13   **Q.     How did Staff estimate the projected DPS growth?**

14   A.     Staff averaged the projected DPS growth rates shown in *Value Line* for the sample water  
15           utilities. The average of the DPS projections is 5.0 percent as shown in SPI-4.

16  
17   **Q.     How did Staff calculate the historical EPS growth rate?**

18   A.     Staff calculated the historical EPS growth rate by averaging the EPS for the sample  
19           companies from 1996 to 2005. Staff excluded Connecticut Water's historical EPS growth  
20           rate from the average as it is negative 0.9 percent and negative growth is inconsistent with  
21           the DCF model. The historical average EPS is 4.2 percent as shown in SPI-4.

22  
23   **Q.     How did Staff estimate the projected EPS growth?**

24   A.     Staff averaged the projected EPS growth rates shown in *Value Line* for the sample water  
25           utilities. The average of the EPS projections is 7.9 percent as shown in SPI-4.

1 **Q. How did Staff calculate its historical and projected sustainable growth rates?**

2 A. Historical and projected sustainable growth rates are calculated by adding the respective  
3 retention growth rates (br) to stock financing growth rates (vs) as shown in the last two  
4 columns of SPI-5.

5  
6 **Q. What is retention growth?**

7 A. Retention growth is growth in dividends that results from retention of earnings. This  
8 concept is based on the theory that dividend growth will not be achieved unless the  
9 company retains and reinvests some of its earnings. It is used in Staff's calculation of  
10 sustainable growth shown in SPI-5.

11  
12 **Q. What is the formula for the retention growth rate?**

13 A. Retention growth is the product of the retention ratio and the book/accounting return on  
14 equity. The formula is as follows:

15 Equation 3:

$$\text{Retention Growth Rate} = br$$

where :  $b$  = the retention ratio (1 – dividend payout ratio)  
 $r$  = the accounting/book return on common equity

16  
17 **Q. How did Staff calculate the average historical retention growth rate (br) for the**  
18 **sample water utilities?**

19 A. Staff calculated the historical retention rates by averaging the retention rates for the  
20 sample companies from 1996 to 2005. The historical average retention rate is 3.1 percent  
21 as shown in SPI-5.

1    **Q.    How did Staff determine projected retention growth rate (br) for the sample water**  
2       **utilities?**

3    A.    Staff averaged the projected retention growth rates for the period 2009 to 2011 shown in  
4       *Value Line* for the sample water utilities. The average of the retention rate projections is  
5       4.8 percent as shown in SPI-5.

6  
7    **Q.    When can retention growth provide a reasonable estimate of future dividend**  
8       **growth?**

9    A.    The retention growth rate is a reasonable estimate of future dividend growth when the  
10      retention ratio is reasonably constant and the entity's market price to book value ("market-  
11      to-book ratio") is expected to be 1.0. The average retention ratio has been reasonably  
12      constant in recent years. However, the market-to-book ratio for the sample water utilities  
13      is 2.6, notably higher than 1.0, as shown in Schedule SPI-6.

14  
15   **Q.    Is there any financial implication of a market-to-book ratio greater than 1.0?**

16   A.    Yes. A market-to-book ratio greater than 1.0 implies that investors expect an entity to  
17      earn an accounting/book return on its equity that exceeds its cost of equity. The  
18      relationship between required returns and expected cash flows is readily observed in the  
19      fixed securities market. For example, assume an entity contemplating issuance of bonds  
20      with a face value of \$10 million at either 6 percent or 7 percent, and thus, paying annual  
21      interest of \$600,000 or \$700,000, respectively. Regardless of investors' required return on  
22      similar bonds, investors will be willing to pay more for the bonds if issued at 7 percent  
23      than if the bonds are issued at 6 percent. For example, if the current interest rate required  
24      by investors is 6 percent, then investors would bid \$10 million for the 6 percent bonds and  
25      more than \$10 million for the 7 percent bonds. Similarly, if equity investors require a 7



1           percent return and expect an entity to earn accounting/book returns of 12 percent, the  
2           market will bid up the price of the entity's stock to provide the required return of 7  
3           percent.

4  
5       **Q.    How has Staff generally recognized a market-to-book ratio exceeding 1.0 in its cost of**  
6       **equity analyses in recent years?**

7       A.   Staff has assumed that investors expect the market-to-book ratio to remain greater than  
8       1.0. Given that, Staff has added a stock financing growth rate (vs) term to the retention  
9       ratio (br) term to calculate its historical and projected sustainable growth rates.

10  
11       **Q.    Do the historical and projected sustainable growth rates Staff uses to develop its**  
12       **DCF cost of equity in this case include stock financing growth as an input?**

13       A.   Yes.

14  
15       **Q.    What is stock financing growth?**

16       A.   Stock financing growth is the growth in an entity's dividends due to the sale of stock by  
17       that entity. Stock financing growth is a concept derived by Myron Gordon and discussed  
18       in his book *The Cost of Capital to a Public Utility*.<sup>5</sup> Stock financing growth is the product  
19       of the fraction of the funds raised from the sale of stock that accrues to existing  
20       shareholders (v) and the fraction resulting from dividing the funds raised from the sale of  
21       stock by the existing common equity(s).

22  
23       **Q.    What is the mathematical formula for the stock financing growth rate?**

24       A.   The stock financing growth rate formula is as follows:

---

<sup>5</sup> Gordon, Myron J. *The Cost of Capital to a Public Utility*, MSU Public Utilities Studies, Michigan, 1974. pp 31-35.

2

3

4

5

6

7

8

9

10

In this example,  $v$  is equal to 0.50.

1 **Q. How is the variable s presented above calculated?**

2 A. Variable s is calculated as follows:

3  
4 Equation 6:

5  
6 
$$s = \frac{\text{Funds raised from issuance of stock}}{\text{Total existing common equity before issuance}}$$
  
7

8 For example, assume that an entity has \$100 in existing equity, and it sells \$25 of stock.

9 Then, to find the value of s, the formula is applied:

$$s = \left( \frac{25}{100} \right)$$

10 In this example, s is equal to 25.0 percent.

11  
12 **Q. What is the vs term when the market-to-book ratio is equal to 1.0?**

13 A. A market-to-book ratio equal to 1.0 reflects that investors expect an entity to earn a  
14 book/accounting return on their equity investment equal to the cost of equity. When the  
15 market-to-book ratio is equal to 1.0, none of the funds raised from the sale of stock by the  
16 entity accrues to the benefit of existing shareholders, i.e., the term v is equal to zero (0.0).  
17 Consequently, the vs term is also equal to zero (0.0). When stock financing growth is zero,  
18 dividend growth depends solely on the br term.

19  
20 **Q. What is the affect of the vs term when the market-to-book ratio is greater than 1.0?**

21 A. A market-to-book ratio greater than 1.0 reflects that investors expect an entity to earn a  
22 book/accounting return on their equity investment greater than the cost of equity. Equation  
23 5 shows that when the market-to-book ratio is greater than 1.0 the v term is also greater

1       than zero. The excess by which new shares are issued and sold over book value per share  
2       of outstanding stock is a contribution that accrues to existing stockholders in the form of a  
3       higher book value. The resulting higher book value leads to higher expected earnings and  
4       dividends. Continued growth from the vs term is dependent upon the continued issuance  
5       and sale of additional shares at a price that exceeds book value per share.

6  
7       **Q.    What vs estimate did Staff calculate from its analysis of the sample water utilities?**

8       A.   Staff estimated an average stock financing growth (vs) of 2.6 percent for the sample water  
9       utilities as shown in Schedule SPI-5.

10  
11       **Q.    What would one expect to occur should a stock have a market-to-book ratio greater**  
12       **than 1.0 as a result of investors' expectations that earnings would exceed the cost of**  
13       **equity capital and the entity subsequently was authorized rates equal to its cost of**  
14       **equity capital?**

15       A.   A reasonable expectation is for the market-to-book ratio to move toward 1.0.

16  
17       **Q.    If the average market-to-book ratio of the sample water utilities falls to 1.0 due to**  
18       **authorized ROE's equaling the cost of equity capital, would Staff's inclusion of the vs**  
19       **term in its constant-growth DCF analysis result in an overestimate of its sustainable**  
20       **dividend growth rate and the resulting DCF ROE estimate?**

21       A.   Yes. Inclusion of the vs term assumes that the market-to-book ratio continues to exceed  
22       1.0, and that the water utilities will continue to issue and sell stock at prices exceeding  
23       book value resulting in benefits for existing shareholders. If the market-to-book ratio  
24       declines to 1.0, the stock financing term is not necessary.

1 **Q. What are Staff's historical and projected sustainable growth rates?**

2 A. Based on the average earnings retention of the sample water companies, Staff's estimated  
3 historical sustainable growth rate is 5.8 percent. Staff's projected sustainable growth rate  
4 is 8.4 percent based on the retention growth rate projected by *Value Line*. Staff's  
5 estimates of the sustainable growth rate are shown in SPI-5 and SPI-7.

6  
7 **Q. What is Staff's expected infinite annual growth rate in dividends?**

8 A. Staff's expected infinite annual growth rate in dividends is 5.7 percent, the average of  
9 historical and projected dividends per share ("DPS"), earnings per share ("EPS"), and  
10 sustainable growth rate estimates. The calculation is shown in SPI-7.

11  
12 **Q. What is Staff's constant-growth DCF estimate?**

13 A. Staff's constant-growth DCF estimate is 8.5 percent as shown in Schedule SPI-2.  
14

15 **Multi-Stage DCF**

16 **Q. Why did Staff include the multi-stage DCF in its estimate of Utility Source's cost of**  
17 **equity?**

18 A. Staff used the multi-stage DCF to consider the assumption that dividends may not grow at  
19 a constant rate.

20  
21 **Q. Please describe the multi-stage DCF used in Staff's analysis?**

22 A. As mentioned previously, the multi-stage DCF uses two stages of growth. The first stage  
23 is four years followed by the second stage. A separate growth rate is applied to each  
24 stage.

1 **Q. What is the mathematical formula for the multi-stage DCF?**

2 A. The multi-stage DCF formula is shown in the following equation:  
3

Equation 7:

$$P_0 = \sum_{t=1}^n \frac{D_t}{(1+K)^t} + \frac{D_n(1+g_n)}{K-g_n} \left[ \frac{1}{(1+K)} \right]^n$$

Where:  $P_0$  = current stock price

$D_t$  = dividends expected during stage 1

$K$  = cost of equity

$n$  = years of non-constant growth

$D_n$  = dividend expected in year n

$g_n$  = constant rate of growth expected after year n

4  
5 **Q. What steps did Staff take to implement its multi-stage DCF cost of equity model?**

6 A. First, Staff projected future dividends for each of the sample water utilities using the near-  
7 term and long-term growth rate periods discussed previously. Second, Staff calculated the  
8 rate (cost of equity) which equates the present value of the forecasted dividends to the  
9 current stock price for each of the sample water utilities. Finally, Staff calculated an  
10 average of the individual sample companies' cost of equity estimates.  
11

12 **Q. How did Staff calculate growth rate for the first stage of the multi-stage DCF?**

13 A. The growth rate for the first stage is based on *Value Line's* projected dividends for the  
14 next twelve months, when available, and on the average dividend growth rate calculated in  
15 Staff's constant DCF analysis for the remainder of the stage.

1 **Q. How did Staff estimate the growth rate for the second stage of the multi-stage DCF**  
2 **model?**

3 A. Staff calculated the arithmetic mean of growth in GDP from 1929 to 2005.<sup>6</sup> Use of the  
4 historic arithmetic mean of GDP assumes that dividend growth for the utility will be  
5 similar to the historical growth in the overall economy.

6  
7 **Q. What is the historical GDP growth rate that Staff used in stage-2 growth?**

8 A. The arithmetic mean of growth in GDP used in stage-2 is 6.8 percent as shown in SPI-8.

9  
10 **Q. What is Staff's multi-stage DCF estimate?**

11 A. Staff's multi-stage DCF estimate is 9.5 percent as shown in Schedule SPI-8.

12  
13 **Q. What is Staff's overall DCF estimate?**

14 A. Staff's overall DCF estimate is 9.0 percent. Staff calculated the overall DCF estimate by  
15 averaging the constant growth DCF (8.5 percent) and multi-stage DCF (9.5 percent)  
16 estimates as shown in Schedule SPI-2.

17  
18 **Capital Asset Pricing Model**

19 **Q. Please describe the capital asset pricing model and the premise it is based on.**

20 A. The CAPM is a model used in pricing of securities. The CAPM formula is based on the  
21 premise that the return on a security is equal to the sum of a risk free rate and a risk  
22 premium. The risk free rate portion of the formula compensates an investor for the risk  
23 inherent in investing in the market. The risk premium portion of the formula compensates  
24 an investor for taking on additional risk. The model illustrates the relationship between

---

<sup>6</sup> www.bea.doc.gov

1 risk and expected return. It is useful in establishing expected returns for a security given  
2 its risk and the returns of other securities of similar risk. In 1990, Professors Harry  
3 Markowitz, William Sharpe, and Merton Miller earned the Nobel Prize in Economic  
4 Sciences for their contribution to the development of the CAPM. The CAPM assumes  
5 that investors hold portfolios sufficiently diversified to eliminate any non-systematic  
6 (unique) risk.<sup>7</sup>

7  
8 **Q. What is the mathematical formula for the CAPM?**

9 A. The mathematical formula for the CAPM is:

10  
Equation 8:

$$K = R_f + \beta(R_m - R_f)$$

where:  $R_f$  = risk free rate  
 $R_m$  = return on market  
 $\beta$  = beta  
 $R_m - R_f$  = market risk premium  
 $K$  = expected return

11  
12 The equation shows that the expected return (K) on a security is equal to the risk-free  
13 interest rate ( $R_f$ ) plus the product of the market risk premium ("Rp") ( $R_m - R_f$ ) multiplied  
14 by beta ( $\beta$ ) where beta represents the risk of the investment relative to the market.

15  
16 **Q. What is the risk free rate?**

17 A. The risk free rate is the rate of return of an investment with no risk.

---

<sup>7</sup> Brigham, Eugene F. and Ehrhardt, Michael C. Financial Management Theory and Practice 11<sup>th</sup> Edition. 2005. Thomson South-Western. United States. P. 182.



1     **Q.     What rate does Staff use to estimate the risk free rate?**

2     A.     Staff relies on the U.S. Treasury security spot rates as an estimate for the risk free rate.

3

4     **Q.     Why are U.S. Treasury security spot rates an appropriate measure of the risk-free**  
5     **rate?**

6     A.     U.S. Treasury securities are generally considered risk free as they are issued and backed  
7     by the U.S. Government. U.S. Treasuries also have the benefit of being verifiable,  
8     objective and readily available.

9

10    **Q.     What does beta measure?**

11    A.     Beta represents the correlation between price variation of an individual security and the  
12    price variation of the market. Beta is a measure of systematic (market) risk. Systematic  
13    risk, as opposed to unsystematic (unique) risk, cannot be eliminated by diversification.  
14    Investors who hold diverse portfolios can eliminate non-systematic risk. Therefore, only  
15    systematic risk affects the cost of equity.

16

17    **Q.     How is the beta measurement expressed?**

18    A.     Beta is expressed as a numeral. Beta for the market is 1.0. A security with a beta greater  
19    than 1.0 is riskier than the market, and a security with a beta less than 1.0 is less risky than  
20    the market. The degree to which a given security's beta is greater or less than 1.0  
21    indicates its relatively greater or lesser risk to the market.

22

23    **Q.     How did Staff estimate Utility Source's beta?**

24    A.     Staff's DCF analysis for Utility Source uses a beta equal to the average of the betas for the  
25    sample companies. Staff used the betas published in *Value Line* on October 27, 2006.

1           The average of the betas is 0.82. Schedule SPI-6 shows the *Value Line* betas and their  
2           average.

3  
4       **Q.    How did the average of the sample water utilities beta's compare to the market's**  
5       **beta?**

6       A.    The average beta of the six sample water utilities is 0.82. This conclusion is based on  
7           averaging beta's published in *Value Line* on October 27, 2006. As beta for the entire  
8           market is 1.0, the average of the sample companies' betas is less than the market's beta.

9  
10      **Q.    What is the implication of a 0.82 beta for the average of sample water utilities**  
11      **compared to a 1.0 beta for the market?**

12      A.    The implication is that the cost of equity for a regulated water utility is below the average  
13           required return on the market.

14  
15      **Q.    Please describe the expected market risk premium ( $R_m - R_f$ ).**

16      A.    Conceptually, it is the return that an investor expects to receive to compensate for market  
17           risk. Mathematically speaking, the expected market risk premium is the expected return  
18           on a market portfolio minus the risk free rate.

19  
20      **Q.    How many risk premium CAPM analyses did Staff conduct in its analysis of Utility**  
21      **Source's cost of equity capital?**

22      A.    Staff conducted two risk premium CAPM analyses: current market risk premium and  
23           historic market risk premium. Staff averaged the results of the two risk premium analyses  
24           to calculate a CAPM cost of equity estimate as shown in SPI-2.

**Historic Market Risk Premium**

**Q. What did Staff use for the historic market risk premium?**

A. Staff referred to the *Ibbotson Associates' Stocks, Bonds, Bills, and Inflation 2005 Yearbook* and selected Ibbotson's measure of the average premium of the market over intermediate treasury securities since 1926. Ibbotson Associates calculates the historical risk premium by averaging the historical arithmetic differences between the S&P 500 and the intermediate-term government bond income returns. Staff's historic market risk premium is 7.5 percent as shown in Schedule SPI-2.

**Current Market Risk Premium**

**Q. How did Staff establish the current market risk premium?**

A. Staff solved equation 8 for the market risk premium using a DCF derived expected return (K) of 10.48 percent based on *Value Line's* current projections for the dividend yield (1.7 percent) and growth (8.78 percent<sup>8</sup>) for all dividend paying stocks; the 30-year Treasury note rate (4.9 percent) for the risk free rate ( $R_f$ ); and the market beta of 1.0. Staff calculated a current market risk premium of 5.58 percent.<sup>9</sup>

**Q. What are the results of Staff's historical and current market risk premium CAPM analyses?**

A. Staff's cost of equity estimate is 10.9 percent using the historical market risk premium CAPM and 9.5 percent using current market risk premium CAPM.

<sup>8</sup> 3 to 5 year growth = 40%,  $1.40^{0.25} = 1.0878$ ;  $(1.0878 - 1.0 = .0878$  or 8.78%)

<sup>9</sup> If  $10.48 = 4.9\% + 1(R_m - R_f)$ , then,  $(R_m - R_f) = 5.58\%$

1 **Q. What is Staff's overall CAPM estimate?**

2 A. Staff's overall CAPM estimate is 10.2 percent which is the average of the historical  
3 market risk premium CAPM and the current market risk premium CAPM estimates as  
4 shown in Schedule SPI-2.

5  
6 **VI. SUMMARY OF STAFF'S COST OF EQUITY ANALYSIS**

7 **Q. What is Staff's constant-growth DCF analysis estimate of the cost of equity for the**  
8 **sample water companies?**

9 A. Staff's constant-growth DCF estimate of the cost of equity for the sample water utilities is  
10 8.5 percent. The results are shown in Schedule SPI-2. A summary of the analysis is as  
11 follows:

12  $k = \text{Dividend yield} + \text{Expected dividend growth}$

13  $k = 2.8\% + 5.7\%$

14  $k = 8.5\%$

15  
16 **Q. What is Staff's multi-stage DCF analysis estimate of the cost of equity for the sample**  
17 **water companies?**

18 A. Staff's multi-stage DCF estimate of the cost of equity for the sample water utilities is 9.5  
19 percent. The result is presented in Schedule SPI-2. A summary of the analysis is as  
20 follows:

Company	Equity Cost Estimate (k)
American States Water	9.0%
California Water	9.8%
Aqua America	8.6%
Connecticut Water	10.7%
Middlesex Water	10.5%
SJW Corp	<u>8.4%</u>
Average	<b>9.5%</b>

**Q. What is Staff's overall DCF estimate of the cost of equity?**

A. Staff's overall DCF estimate of the cost of equity for the sample utilities is 9.0 percent. This estimate is calculated by averaging Staff's constant growth and multi-stage DCF estimates as shown in Schedule SPI-2.

**Q. What is Staff's CAPM estimate of the cost of equity for the sample companies using the historical market risk premium?**

A. Staff's CAPM estimate of the cost of equity for the sample companies using the historical market risk premium is 10.9 percent. The results are shown in Schedule SPI-2. A summary of the analysis is as follows:<sup>10</sup>

$k = \text{historical risk free rate} + \text{beta} * \text{historical market risk premium}$   
 $k = 4.8\% + 0.82 * 7.5\%$   
 $k = 4.8\% + 6.2\%$   
 $k = 10.9\%$

---

<sup>10</sup> Rounded Figures

1 **Q. What is Staff's CAPM estimate of the cost of equity for the sample companies using**  
2 **the current market risk premium?**

3 A. Staff's CAPM estimate of the cost of equity for the sample companies using the current  
4 market risk premium is 9.5 percent. The results are shown in Schedule SPI-2. A  
5 summary of the analysis is as follows:<sup>11</sup>

6  
7  $k = \text{current risk free rate} + \text{beta} * \text{current market risk premium}$   
8  $k = 4.9\% + 0.82 * 5.6\%$   
9  $k = 4.9\% + 4.6\%$   
10  $k = 9.5\%$

11  
12 **Q. What is Staff's overall CAPM estimate of the cost of equity for the sample utilities?**

13 A. Staff's overall CAPM estimate for the sample utilities is 10.2 percent. This estimate is  
14 calculated by averaging the historical market risk premium CAPM and the current market  
15 risk premium CAPM estimates for the sample companies as shown in Schedule SPI-2.

16  
17 **Q. Please summarize the results of Staff's cost of equity analysis.**

18 A. The following table shows the results of Staff's cost of equity analysis:

19  
20 **Table 2**

<b>Method</b>	<b>Estimate</b>
Average DCF Estimate	9.0%
Average CAPM Estimate	10.2%
<b>Overall Average</b>	<b>9.6%</b>

21 Staff's average estimate of the cost of equity of the sample water utilities is 9.6 percent.

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<sup>11</sup> Rounded Figures

**VII. FINAL COST OF EQUITY ESTIMATES FOR UTILITY SOURCE**

**Q. Does capital structure influence the cost of equity?**

A. Yes. Capital structure influences cost of capital. Companies with higher debt leverage have higher financial risk. Investors require a higher rate of return to compensate for greater risk. Accordingly, when an applicant's capital structure is different than the average of the sample companies an adjustment to the cost of equity may be appropriate to reflect the difference in financial risk.

**Q. Does Utility Source's capital structure differ from the average capital structure of the sample companies?**

A. Yes. Schedule D-2 of the application indicates that Utility Source has no debt. This debt free capital structure reflects less financial risk than the average of the sample companies. The sample companies average 51.1 percent debt and 48.9 percent equity.

**Q. Does Staff recommend an adjustment to recognize the difference in financial risk between Utility Source and the sample companies?**

A. No. Staff finds that Utility Source's capital structure is appropriate. The Company is privately held and has no access to capital markets. An entity that lacks access to the capital markets has comparatively less ability to manage its capital structure efficiently than an entity with access to the capital markets. Therefore, an entity lacking access to the capital markets should appropriately maintain a higher level of equity to maintain financial health. A downward adjustment to return on equity would serve as a disincentive for the Company to maintain a capital structure that is appropriate for its circumstances.

1 **Q. What is Staff's ROE recommendation for Utility Source?**

2 A. Staff recommends an ROE of 9.6 percent.

3  
4 **VIII. RATE OF RETURN RECOMMENDATION**

5 **Q. What is Staff's overall rate of return recommendation for Utility Source?**

6 A. Staff recommends a 9.6 percent ROR for Utility Source. Staff's recommendation is based  
7 on a capital structure composed of 0 percent debt and 100 percent equity and a 9.6 percent  
8 ROE as shown in Schedule SPI-1 and Table 3 below.

9  
10 **Table 3**

	<b>Weight Cost</b>		<b>Weighted Cost</b>
Long-term Debt	0%	0%	0%
Common Equity	100%	9.6%	<u>9.6%</u>
<b>Cost of Capital/ROR</b>			<b>9.6%</b>

11  
12 **IX. STAFF RESPONSE TO COMPANY'S COST OF CAPITAL WITNESS MR.**  
13 **THOMAS J. BOURASSA**

14 **Q. Please summarize Mr. Bourassa's cost of capital analyses and recommendations.**

15 A. Mr. Bourassa's cost of capital recommendation is based on use of both constant growth  
16 and multi-stage growth DCF models. In addition to these models, he also performs a  
17 bond-yield plus risk premium analysis and a comparative earning analysis to support the  
18 results of his conclusions from his DCF analyses. Mr. Bourassa asserts that Utility Source  
19 faces additional risks not captured by the market models, such as financial risk and  
20 Arizona's use of historic test years and limited out of period adjustments.<sup>12</sup> Mr. Bourassa

<sup>12</sup> Direct Testimony of Thomas J. Bourassa, Utility Source, L.L.C. Company, Docket no. WS-04235A-06-0303, page 15 of 34.



1 concludes that a 10.5 percent ROE presents a reasonable balance resulting from his  
2 analyses.

3  
4 **Constant-Growth DCF**

5 **Q. What are Staff's comments on Mr. Bourassa's sole reliance on analysts' forecasts to**  
6 **estimate DPS growth in his constant growth DCF estimates?**

7 A. Staff finds Mr. Bourassa's sole reliance on analysts' forecasts to be inappropriate for two  
8 reasons. First, sole reliance on analysts' forecasts of earnings growth to forecast DPS is  
9 inappropriate because it assumes that investors do not independently consider other  
10 relevant information such as past dividend and earnings growth. Second, analysts'  
11 forecasts are known to be overly optimistic. Sole use of analysts' forecasts to calculate  
12 the growth in dividends (g) results in inflated growth estimations, and consequently,  
13 inflated cost of equity estimates.

14  
15 **Q. Does Staff have any comment regarding Mr. Bourassa's statement "To the extent**  
16 **that past results provide useful indications of future growth prospects, analysts'**  
17 **forecasts would already incorporate that information ... Any further recognition of**  
18 **the past will double count what has already occurred."**<sup>13</sup>

19 A. Analysts' forecasts cannot be used as a proxy for investors' expectations for growth.  
20 Investors have at their disposal both analysts' forecasts and historic growth data. While  
21 analysts may have considered historical measures of growth, it is reasonable to assume  
22 that investors rely to some extent on past growth as well. This calls for consideration of  
23 both analysts' forecasts as well as past growth. Should the entire investment community  
24 form their growth expectations based on both analysts' forecasts *and* their own assessment

---

<sup>13</sup> Direct Testimony of Thomas J. Bourassa, Utility Source, L.L.C. Company, Docket no. WS-04235A-06-0303, page 26 and 27 of 34.

1 of historic data, their collective conclusions will form the market's expectation for growth  
2 and subsequently cost of capital. Further, investor consideration of historical data does  
3 not necessarily result in a double count of the information. Investors may assess the  
4 historical data differently than analysts and modify analysts' projections to reflect their  
5 own analyses. The market will reflect investors' expectations regardless of whether any  
6 duplicate consideration of historical data takes place in their analyses.  
7

8 **Q. Does Staff have any comments on the study conducted by David A. Gordon, Myron**  
9 **J. Gordon and Lawrence I. Gould<sup>14</sup> that Mr. Bourassa asserts supports exclusive use**  
10 **of analysts' forecasts in the DCF model?**

11 A. Yes. The article cited by Mr. Bourassa does not conclude that investors ignore past  
12 growth when pricing stocks. The article describes that the Gordon and Gould study  
13 considered three methods of growth estimation that rely on historical data. The article  
14 states that these three methods are "popular/or attractive methods" and "have been widely  
15 used in ... research on stock valuation models."<sup>15</sup> The article also says, "There is a wide  
16 variety of acceptable methods for using historical data to estimate future growth."<sup>16</sup> The  
17 article does not support the sole use of analysts' forecast in the DCF.  
18

19 **Q. Does Staff have any further evidence that Professor Gordon does not recommend**  
20 **exclusive reliance on analysts' forecasts as the measure of growth in the DCF model?**

21 A. Yes. Nine years after publishing his study Professor Gordon addressed the matter at the  
22 30<sup>th</sup> Financial Forum of the Society of Utility and Regulatory Financial Analysts. In his  
23 address he stated:

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<sup>14</sup> Gordon, David A., Myron J. Gordon, Lawrence I. Gould. "Choice Among Methods of Estimating Share Yield."  
*The Journal of Portfolio Management*. Spring 1989. pp. 50-55. (Bourassa's direct testimony, page 26, footnote.)

<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

1 I understand that companies coming before regulatory agencies  
2 liked and advocated the high growth rates in security analyst  
3 forecasts for arriving at their cost of equity capital. Instead of  
4 rejecting these forecasts, I understand that FERC and other  
5 regulatory agencies have decided to compromise with them. In  
6 particular, in arriving at the cost of equity for company X, the  
7 FERC has decided to arrive at the growth rate in my dividend  
8 growth model by using an average of two growth rates. One is  
9 security analysts forecast of the short-term growth rate in earnings  
10 provided by IBES or *Value Line* and the other a more long run and  
11 typically lower figure such as the past growth in GNP.

12 Such an average can be questioned on various grounds. However,  
13 my judgment is that between the short-term forecast alone and its  
14 average with the past growth rate in GNP, *the latter may be a more*  
15 *reasonable figure.*<sup>17</sup> (Emphasis added)

16  
17 Simply stated, if Professor Gordon were to use these questionable methods of estimating  
18 growth rates, he would temper the typically higher analysts' forecasts with the typically  
19 lower GNP growth rate by averaging the two.

20  
21 **Q. Are there other experts who offer views that suggest sole reliance on analysts' growth**  
22 **forecasts is inadvisable?**

23 A. Yes. Other financial experts have commented on the optimism in analysts' growth  
24 forecasts.<sup>18</sup> Several studies have been conducted to measure this phenomenon. In  
25 *Contrarian Investment Strategies: The Next Generation* David Breman cites a study that  
26 found that *Value Line* analysts overestimated forecasts by 9 percent annually, on average  
27 for the 1987 – 1989 period.

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<sup>17</sup> Gordon, M. J. Keynote Address at the 30<sup>th</sup> Financial Forum of the Society of Utility and Regulatory Financial Analysts. May 8, 1998. Transparency 3.

<sup>18</sup> See Seigel, Jeremy J. *Stocks for the Long Run*. 2002. McGraw-Hill. New York. p. 100. Dremman, David. *Contrarian Investment Strategies: The Next Generation*. 1998. Simon & Schuster. New York. pp. 97-98. Malkiel, Burton G. *A Random Walk Down Wall Street*. 2003. W.W. Norton & Co. New York. p. 175.

1 Burton Malkiel of Princeton University studied one-year and five-year forecasts made by  
2 respected analysts. His study found that when compared to actual earnings, several naïve  
3 forecasting models, including growth of national income, proved to be more accurate.  
4 The following excerpt from Professor Malkiel's book *A Random Walk Down Wall Street*  
5 discusses the results of his study:

6 When confronted with the poor record of their five-year growth  
7 estimates, *the security analysts honestly, if sheepishly, admitted*  
8 *that five years ahead is really too far in advance to make reliable*  
9 *projections.* They protested that although long-term projections  
10 are admittedly important, they really ought to be judged on their  
11 ability to project earnings changes one year ahead. Believe it or  
12 not, it turned out that their one-year forecasts were even worse than  
13 their five-year projections.

14 The analysts fought back gamely. They complained that it was  
15 unfair to judge their performance on a wide cross section of  
16 industries, because earnings for high-tech firms and various  
17 "cyclical" companies are notoriously hard to forecast. *"Try us on*  
18 *utilities," one analyst confidently asserted. At the time they were*  
19 *considered among the most stable group of companies because of*  
20 *government regulation. So we tried it and they didn't like it. Even*  
21 *the forecasts for the stable utilities were far off the mark.*<sup>19</sup>  
22 (Emphasis added)

23  
24 **Q. Is the investment community aware that analysts' forecasts are inflated or overly**  
25 **optimistic?**

26 **A.** Yes. Problems related to analysts' forecasts are cited in a number of financial articles  
27 widely available to investors such as *The Wall Street Journal*.<sup>20</sup> Logically, investors who

<sup>19</sup> Malkiel, Burton G. *A Random Walk Down Wall Street*. 2003. W.W. Norton & Co. New York. p. 175

<sup>20</sup> See Smith, Randall & Craig, Suzanne. "Big Firms Had Research Ploy: Quiet Payments Among Rivals." *The Wall Street Journal*. April 30, 2003. Brown, Ken. "Analysts: Still Coming Up Rosy." *The Wall Street Journal*. January 27, 2003. p. C1. Karmin, Craig. "Profit Forecasts Become Anybody's Guess." *The Wall Street Journal*. January 21, 2003. p. C1. Gasparino, Charles. "Merrill Lynch Investigation Widens." *The Wall Street Journal*. April 11, 2002. p. C4. Elstein, Aaron. "Earnings Estimates Are All Over the Map." *The Wall Street Journal*. August 2, 2001. p. C1. Dreman, David. "Don't Count on those Earnings Forecasts." *Forbes*. January 26, 1998. p. 110. Coggan, Philip. "Optimism skews predictions EQUITIES: Data demonstrate that corporate performance reverts to

1 are made aware of the bias in analysts' forecasts will not rely solely on those forecasts in  
2 decision making. Such investors are more likely to rely on other methods of growth  
3 assessment or a combination of methods.  
4

5 **Q. Does Mr. Bourassa's own testimony provide comment contradicting the propriety of**  
6 **sole reliance on analysts' forecasts to estimate dividend growth?**

7 A. Yes. Mr. Bourassa's testimony (P. 20, lines 5 through 46) describes that an advantage of  
8 the comparable earnings approach is that it is easy to calculate and the amount of  
9 subjective judgment required is minimal. In this statement Mr. Bourassa correctly  
10 indicates that minimizing subjective judgment in cost of equity analysis is an advantage.  
11 Analysts' projections are inherently subjective and prone to error. Accordingly, they  
12 should not be relied upon solely in growth estimation.  
13

14 **Q. What are Staff's comments to Mr. Bourassa's testimony (P. 21, lines 19 and 20) that**  
15 **states, "In the final analysis ROE estimates are subjective and should be based on**  
16 **sound, informed judgment" given that he previously identified minimizing**  
17 **subjectivity as an advantage in cost of equity models?**

18 A. The subjectivity inherent in growth estimation can be reduced by inclusion of historic  
19 growth data that is factual as opposed to sole reliance on perceptions.

1 **Q. Does Mr. Bourassa make other subjective choices in his cost of equity analysis that**  
2 **unnecessarily reduce its objectivity?**

3 A. Yes. Mr. Bourassa's testimony (P. 27, lines 17 though 19) describes that he has not used  
4 forecasts of dividend growth in his DCF model as the average annual forecast of dividend  
5 growth is very low. The omission of such data results in exclusion of publicly accessible  
6 data which the investment community may consider in forming its growth expectations.  
7 Mr. Bourassa apparently believes that forecasts of dividend growth are appropriate  
8 considerations for cost of equity analysis but excluded them, therefore, swaying the results  
9 of his cost of equity estimation.

10  
11 **Q. Should DPS growth be included in a DCF analysis?**

12 A. Yes. The present value of a stock is equal to the present value of all future dividends  
13 rather than the present value of all future earnings. This is the case as not all earnings are  
14 dispersed as dividends. On this matter, Professor Jeremy Siegel of the Wharton School of  
15 Finance said:

16  
17 Note that the price of the stock is always equal to the present value  
18 of all future *dividends* and not the present value of future earnings.  
19 Earnings not paid to investors can have value only if they are paid  
20 as dividends or other cash disbursements at a later date. Valuing  
21 stock as the present discounted value of future earnings is  
22 manifestly wrong and greatly overstates the value of the firm.<sup>21</sup>

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<sup>21</sup> Siegel, Jeremy J. Stocks for the Long Run. 2002. McGraw-Hill. New York. P. 93.

**Multi-Stage DCF**

**Q. What are Staff's comments on Mr. Bourassa's sole reliance on forecasted earnings growth for the near-term ("Stage - 1 growth") in his multi-stage DCF?**

A. It is not likely that investors rely solely on forecasted earnings growth and therefore his conclusions are not likely to reflect the market's expectations. Investors have a variety of methods available to them to assess growth. Alternatives include historic growth which is objective rather than subjective. Additionally, as stated previously, analysts' forecasts are known to be inflated or overly optimistic.

**Risk Premium**

**Q. Please describe Mr. Bourassa's risk premium analysis.**

A. Mr. Bourassa computed the average risk premium for (1) actual returns for the ten years 1995 to 2004 and (2) authorized returns for the ten years 1996 to 2006 compared to the 10-year Treasury rate on Utility Source's proxies. He then added the average risk premium for each method to the forecasted interest rates for 10-year Treasuries for 2007-2008.

**Q. What are Staff's comments on Mr. Bourassa's risk premium method for estimation of cost of equity?**

A. This analysis is based on actual returns for his sample of water companies. This analysis is not market based as the cost of equity is determined by the market and not by actual or authorized returns. The analysis also relies on forecasts for interest on 10-year Treasuries. Analysts who forecast future interest rates have no more information upon which to project future interest rates than what is reflected in the current rate.

1 Nancy L. Jacob of the University of Washington and R. Richardson Pettit of the  
2 University of Houston note the following:

3  
4 While we know something about many of the factors that  
5 determine interest rates (money supply, the demand for loanable  
6 funds, etc.) little evidence exists to suggest these factors can be  
7 predicted with enough accuracy to successfully predict the rates.<sup>22</sup>  
8

9 **Q. What is Staff's comment in regard to Mr. Bourassa's statement which explains that**  
10 **he selected the forecast for interest rates for 2007 – 2008 as that is the period in**  
11 **which Utility Source's rates will be in effect?**<sup>23</sup>

12 A. Irrespective of the timing, it remains that it is a faulty assumption that interest rates can be  
13 predicted.  
14

15 **Comparative Earnings**

16 **Q. Please provide a description of Mr. Bourassa's comparative earnings analysis.**

17 A. In his comparative earnings analysis Mr. Bourassa compares the results of his DCF and  
18 risk premium methods to the actual and authorized returns reported in *AUS Utility Reports*  
19 and to *Value Line's* forecasts of the composite equity return for the water utility industry.  
20

21 **Q. What are Staff's comments on this method?**

22 A. Again, as with his risk premium analysis, Mr. Bourassa relies on actual and authorized  
23 returns. As mentioned previously, actual and authorized returns are not market based.  
24 The cost of equity is determined by the market; hence, actual and authorized returns are  
25 not reliable indicators of the cost of equity. These methods are not consistent with modern

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<sup>22</sup> Jacob, Nancy L., R. Richardson Pettit. *Investments*. Irwin. Homewood, Ill. 1988. p. 499.

<sup>23</sup> Direct Testimony of Thomas J. Bourassa, Utility Source, L.L.C. Company, Docket no. WS-04235A-06-0303, page 30 of 34.



1 financial theory. In regard to reliance on *Value Line* forecasts for equity return for the  
2 water utility industry, Staff would again note that analyst's forecasts are known to be  
3 inflated or overly optimistic.

4  
5 **Unique Risks**

6 **Q. What is Staff's response to Mr. Bourassa's assertion that the market data provided**  
7 **by the water utility sample does not capture all of the market risks of Utility Source**  
8 **because Arizona rate regulation requires use of historical test years and recognizes**  
9 **limited out of period adjustments?**<sup>24</sup>

10 A. The risk examples cited by Mr. Bourassa are examples of unique risks. Use of a historical  
11 test year is a unique risk and so is use of a future test year. Existence of unique risk does  
12 not necessarily indicate that a company has more total risk than others as all companies  
13 have their own set of unique risks. Moreover, the market does not reward for unique risk  
14 as it can be diversified away.

15  
16 **Q. What is Staff's response to Mr. Bourassa's assertion that a good argument can be**  
17 **made that Utility Source is not comparable to the six publicly traded water utilities**  
18 **in the same group as a result of size differences?**<sup>25</sup>

19 A. The Commission has previously ruled that firm size does not warrant recognition of a risk  
20 premium. In Decision No. 64727, dated April 17, 2002, for Black Mountain Gas, the  
21 Commission agreed with Staff that "the 'firm size' phenomenon' does not exist for  
22 regulated utilities, and that therefore there is no need to adjust for risk for small firm size  
23 in utility rate regulation." Decision No. 64282, dated December 28, 2001, states, "We do

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<sup>24</sup> Direct Testimony of Thomas J. Bourassa, Utility Source, L.L.C. Company, Docket no. WS-04235A-06-0303, page 15 of 34.

<sup>25</sup> Direct Testimony of Thomas J. Bourassa, Utility Source, L.L.C. Company, Docket no. WS-04235A-06-0303, page 17 and 18 of 34.

1 not agree with the Company's proposal to assign a risk premium to Arizona Water based  
2 on its size relative to the other publicly traded water utilities ..."

3  
4 **CAPM**

5 **Q. What is Staff's comment regarding Mr. Bourassa's criticism of the CAPM?**

6 A. Mr. Bourassa asserts that the CAPM has questionable assumptions that underlie the model  
7 that have detracted from its practical application.<sup>26</sup> The CAPM, like all other models for  
8 estimating the cost of equity, has limitations. If all models exhibiting limitations were  
9 eliminated, no models would be acceptable. The CAPM has a particularly beneficial  
10 quality that makes it a preferable model. It is market based. In *The Cost of Capital – A*  
11 *Practitioner's Guide*, David Parcell indicates that, "It (CAPM) has widespread use in the  
12 investment community, particularly by portfolio managers who employ modern portfolio  
13 theory."<sup>27</sup>

14  
15 **X. RECOMMENDATIONS**

16 **Q. Please summarize Staff's recommendations.**

17 A. Staff recommends a 9.6 percent ROR for Utility Source. Staff's recommendation is based  
18 on a capital structure composed of 0 percent debt and 100 percent equity and a 9.6 percent  
19 ROE as shown Table 4 below.

20  

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<sup>26</sup> Direct Testimony of Thomas J. Bourassa, Utility Source, L.L.C. Company, Docket no. WS-04235A-06-0303, page 20 of 34.

<sup>27</sup> Parcell, David C. *The Cost of Capital – A Practitioner's Guide*. Parcell. 1997. p. 6 – 23.

Table 4

	Weight Cost		Weighted Cost
Long-term Debt	0%	0%	0%
Common Equity	100%	9.6%	<u>9.6%</u>
<b>Cost of Capital/ROR</b>			<b>9.6%</b>

Staff further recommends that the Commission reject the Company's proposed 10.5 percent ROR. The Company's proposed ROR is supported by ROE estimation methods that are not reliable representatives of the current cost of equity capital.

**Q. Does this conclude your direct testimony?**

**A.** Yes, it does.

**Utility Source LLC**  
Capital Structure  
And Weighted Average Cost of Capital  
Staff Recommended and Company Proposed

[A]	[B]	[C]	[D]
Description	Weight (%)	Cost	Weighted Cost
Staff Recommended Structure			
Debt	0.0% <sup>1</sup>	0.0%	0.0%
Common Equity	100.0% <sup>1</sup>	9.6% <sup>2</sup>	<u>9.6%</u>
Weighted Average Cost of Capital/ROR			<b>9.6%</b>
Company Proposed Structure			
Debt	0.0%	0.0%	0.0%
Common Equity	100.0%	10.5%	10.5%
Weighted Average Cost of Capital/ROR			<b>10.5%</b>

[D] : [B] x [C]

<sup>1</sup> Supporting Schedules: SPI-3

<sup>2</sup> Supporting Schedule: SPI-2

Utility Source LLC  
Final Cost of Equity Estimates  
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]
<u>DCF Method</u>		<u>D/P<sub>a</sub><sup>1</sup></u>	<u>+ g<sup>2</sup></u>	<u>k</u>
Constant Growth DCF Estimate		2.8%	+ 5.7%	8.5%
Multi-Stage DCF Estimate				9.5%
Average of DCF Estimates				9.0%
<u>CAPM Method</u>		<u>R<sub>f</sub></u>	+	<u>β<sup>5</sup></u>
Historical Market Risk Premium <sup>3</sup>		4.8%	+	0.82
Current Market Risk Premium <sup>4</sup>		4.9%	+	0.82
Average of CAPM Estimates			x	x
			x	7.5% <sup>6</sup>
			x	5.6% <sup>7</sup>
			x	10.9%
			x	9.5%
			x	10.2%
			x	9.6%
			x	9.6%
			x	9.6%
			x	9.6%
			x	9.6%
			x	9.6%
			x	9.6%
			x	9.6%
			x	9.6%
			x	9.6%
			x	9.6%
			x	9.6%
			x	9.6%
			x	9.6%
			x	9.6%
			x	9.6%
			x	9.6%
			x	9.6%
			x	9.6%
			x	9.6%
			x	9.6%
			Total	9.6%

1 MSN Money and Value Line  
2 SPI-7  
3 Wall Street Journal (RJ) 5, 7, and 10 year Treasury rates  
4 Wall Street Journal (RJ) 30 Year Treasury bond rate  
5 Value Line  
6 Historical Market Risk Premium (RP) from Ibbotson Associates S&P: 2005 Yearbook  
7 Testimony

Utility Source LLC  
Average Capital Structure of Sample Water Utilities

[A]	[B]	[C]	[D]
<u>Company</u>	<u>Debt</u>	Common <u>Equity</u>	<u>Total</u>
American States Water	52.2%	47.8%	100.0%
California Water	50.4%	49.6%	100.0%
Aqua America	55.0%	45.0%	100.0%
Connecticut Water	45.0%	55.0%	100.0%
Middlesex Water	58.9%	41.1%	100.0%
SJW Corp	<u>46.6%</u>	<u>53.4%</u>	<u>100.0%</u>
Average Sample Water Utilities	51.4%	48.6%	100.0%
Utility Source LLC	0.0%	100.0%	100.0%

Source:  
Sample Water Companies from Value Line

Utility Source LLC  
Growth in Earnings and Dividends  
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]
Company	Dividends Per Share 1996 to 2005 <u>DPS</u> <sup>1</sup>	Dividends Per Share Projected <u>DPS</u> <sup>1</sup>	Earnings Per Share 1996 to 2005 <u>EPS</u> <sup>1</sup>	Earnings Per Share Projected <u>EPS</u> <sup>1</sup>
American States Water	1.1%	1.3%	2.5%	7.6%
California Water	1.1%	1.4%	2.3%	4.1%
Aqua America	6.2%	12.5%	9.4%	12.0%
Connecticut Water	1.3%	No Projection	-0.9%	No Projection
Middlesex Water	2.2%	No Projection	0.4%	No Projection
SJW Corp	<u>4.2%</u>	<u>No Projection</u>	<u>6.6%</u>	<u>No Projection</u>
Average Sample Water Utilities	2.7%	5.0%	4.2%	<sup>2</sup> 7.9%

<sup>1</sup> Value Line<sup>2</sup> Note that the figure -0.9% has been excluded from the calculation.

Utility Source LLC  
Sustainable Growth  
Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]
<u>Company</u>	Retention Growth 1996 to 2005 <u>br</u>	Retention Growth Projected <u>br</u>	Stock Financing Growth <u>vs</u>	Sustainable Growth 1996 to 2005 <u>br + vs</u>	Sustainable Growth Projected <u>br + vs</u>
American States Water	2.6%	5.1%	1.5%	4.1%	6.6%
California Water	2.6%	2.9%	2.7%	5.3%	5.6%
Aqua America	4.4%	6.3%	6.6%	11.1%	13.0%
Connecticut Water	2.7%	No Projection	0.5%	3.3%	No Projection
Middlesex Water	1.2%	No Projection	4.4%	5.6%	No Projection
SJW Corp	5.2%	No Projection	0.0%	<u>5.2%</u>	<u>No Projection</u>
Average Sample Water Utilities	3.1%	4.8%	2.6%	5.8%	8.4%

[B]: Value Line

[C]: Value Line

[D]: Value Line and MSN Money

[E]: [B]+[D]

[F]: [C]+[D]



Utility Source LLC  
Selected Financial Data of Sample Water Utilities

[A]	[B]	[C]	[D]	[E]	[F]	[G]
Company	Symbol	Spot Price 10/25/2006	Book Value	Mkt To Book	Value Line Beta	Raw Beta
American States Water	AWR	41.04	16.30	2.5	0.80	0.67
California Water	CWT	38.55	16.82	2.3	0.85	0.75
Aqua America	WTR	24.07	6.60	3.6	0.85	0.75
Connecticut Water	CTWS	21.60	11.87	1.8	0.85	0.75
Middlesex Water	MSEX	18.81	8.70	2.2	0.80	0.67
SJW Corp	SJW	33.99	10.79	3.2	0.75	0.60
Average				2.6	0.82	0.70

[C]: MSN Money

[D]: Value Line

[E]: [C] / [D]

[F]: Value Line

[G]: -0.35 + [F] / 0.67

Utility Source LLC  
Calculation of Expected Infinite Annual Growth in Dividends  
Sample Water Utilities

[A]	[B]
<u>Description</u>	<u>g</u>
DPS Growth - Historical <sup>1</sup>	2.7%
DPS Growth - Projected <sup>1</sup>	5.0%
EPS Growth - Historical <sup>1</sup>	4.2%
EPS Growth - Projected <sup>1</sup>	7.9%
Sustainable Growth - Historical <sup>2</sup>	5.8%
<u>Sustainable Growth - Projected<sup>2</sup></u>	<u>8.4%</u>
Average	<b>5.7%</b>

<sup>1</sup> Schedule SPI-4

<sup>2</sup> Schedule SPI-5

Utility Source LLC  
Multi-Stage DCF Estimates  
Sample Water Utilities

[A] Company	[B] Current Mkt. Price ( $P_0$ ) <sup>1</sup> 10/25/2006	[C] $d_1$	[D] $d_2$	[E] $d_3$	[F] $d_4$	[H] Stage 2 growth <sup>3</sup> ( $g_n$ )	[I] Equity Cost Estimate ( $K$ ) <sup>4</sup>
American States Water	41.0	0.94	0.99	1.05	1.11	6.8%	9.0%
California Water	38.6	1.20	1.27	1.34	1.41	6.8%	9.8%
Aqua America	24.1	0.47	0.49	0.52	0.55	6.8%	8.6%
Connecticut Water	21.6	0.87	0.92	0.97	1.03	6.8%	10.7%
Middlesex Water	18.8	0.72	0.76	0.80	0.85	6.8%	10.5%
SJW Corp	34.0	0.59	0.62	0.66	0.69	6.8%	8.4%
Average		9.5%					

$$P_0 = \sum_{t=1}^n \frac{D_t}{(1+K)^t} + \frac{D_n(1+g_n)}{K-g_n} \left[ \frac{1}{(1+K)} \right]^n$$

Where :  $P_0$  = current stock price

$D_t$  = dividends expected during stage 1

$K$  = cost of equity

$n$  = years of non - constant growth

$D_n$  = dividend expected in year  $n$

$g_n$  = constant rate of growth expected after year  $n$

<sup>1</sup> [B] see schedule SPI-6

<sup>2</sup> Derived from Value Line Information

<sup>3</sup> Average annual growth in GDP 1929 - 2005 in current dollars.

<sup>4</sup> Internal Rate of Return of Projected Dividends

BEFORE THE ARIZONA CORPORATION COMMISSION

JEFF HATCH-MILLER  
Chairman  
WILLIAM A. MUNDELL  
Commissioner  
MIKE GLEASON  
Commissioner  
KRISTIN K. MAYES  
Commissioner  
GARY PIERCE  
Commissioner

IN THE MATTER OF THE APPLICATION OF ) DOCKET NO. WS-04235A-06-0303  
UTILITY SOURCE LLC, AN ARIZONA )  
CORPORATION, FOR A )  
DETERMINATION OF THE CURRENT FAIR )  
VALUE OF ITS UTILITY PLANT AND )  
PROPERTY AND FOR RATE INCREASES IN ITS )  
RATES AND CHARGES FOR UTILITY SERVICE )  
BASED THEREON )  
\_\_\_\_\_ )

DIRECT

TESTIMONY

OF

JIAN W. LIU

UTILITIES ENGINEER

UTILITIES DIVISION

ARIZONA CORPORATION COMMISSION

JANUARY 19, 2007

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**EXHIBIT**

ENGINEERING REPORT .....	EXHIBIT JWJL
--------------------------	--------------

**EXECUTIVE SUMMARY  
UTILITY SOURCE LLC  
DOCKET NO. WS-04235A-06-0303**

**CONCLUSIONS**

- A. Based on data submitted by the Company, ADEQ has determined that the water system (Public Water System #03-300) has no deficiencies and is currently delivering water that meets the water quality standards required by the Arizona Administrative Code, Title 18, Chapter 4.
- B. ADEQ regulates the wastewater system under Inventory #104083, Permit # 32797. ADEQ correspondence dated March 21, 2006, indicated that the facility is in compliance with ADEQ regulations.
- C. The U.S. Environmental Protection Agency ("EPA") has reduced the arsenic maximum contaminant level ("MCL") in drinking water from 50 parts per billion ("ppb") to 10 ppb. The most recent arsenic levels at Utility Source did not exceed 10 ppb for all producing wells. Based on this arsenic concentration, the Company is in compliance with the new arsenic MCL.
- D. Utility Source is not within any Active Management Area, and consequently is not subject to ADWR reporting and conservation rules.
- E. A check with the Utilities Division Compliance Section showed that there were no delinquent compliance items for Utility Source.
- F. Staff concludes that Shallow Well #4, Shallow Well #5 and Deep Well #4 were NOT used and useful during the test year of 2005.

**RECOMMENDATIONS**

- 1. Staff recommends its average annual cost of \$2,446 be adopted for the water testing expense in this proceeding.
- 2. Staff has developed typical and customary depreciation rates within a range of anticipated equipment life. These rates are presented in Table E1 for water systems, and in Table E2 for wastewater systems. It is recommended that Utility Source use these depreciation rates by individual NARUC category on a going forward basis.

**INTRODUCTION**

**Q. Please state your name, place of employment and job title.**

A. My name is Jian W. Liu. My place of employment is the Arizona Corporation Commission ("Commission"), Utilities Division, 1200 West Washington Street, Phoenix, Arizona 85007. My job title is Water/Wastewater Engineer.

**Q. How long have you been employed by the Commission?**

A. I have been employed by the Commission since October 2005.

**Q. Please list your duties and responsibilities.**

A. As a Water/Wastewater Engineer, my responsibilities include the inspection, investigation, and evaluation of water and wastewater systems; preparing reconstruction cost new and/or original cost studies, cost of service studies and investigative reports; providing technical recommendations and suggesting corrective action for water and wastewater systems; and providing written and oral testimony on rate applications and other cases before the Commission.

**Q. How many companies have you analyzed for the Utilities Division?**

A. I have analyzed approximately 17 companies covering various responsibilities for the Utilities Division.

**Q. Have you previously testified before this Commission?**

A. Yes, I have testified before this Commission.

1 **Q. What is your educational background?**

2 A. I am a Ph.D. Candidate in Geotechnical Engineering from Arizona State University  
3 ("ASU"). I have a Master of Science Degree in Natural Science from ASU and a Master  
4 of Science Degree in Civil Engineering from Institute of Rock & Soil Mechanics  
5 ("IRSM"), Academy of Sciences, China.

6  
7 **Q. Briefly describe your pertinent work experience.**

8 A. From 1982 to 2000, I was employed by IRSM, SCS Engineers, and URS Corporation as a  
9 Civil and Environmental Engineer. In 2000, I joined the Arizona Department of  
10 Environmental Quality ("ADEQ"). My responsibilities with ADEQ included review and  
11 approval of water distribution systems, sewer distribution systems, and on-site wastewater  
12 treatment facilities. I remained with ADEQ until transferring to the Commission in  
13 October 2005.

14  
15 **Q. Please state your professional membership, registrations, and licenses.**

16 A. I am a licensed professional civil engineer in the State of Arizona.  
17

18 **PURPOSE OF TESTIMONY**

19 **Q. Were you assigned to provide Staff's engineering analysis and recommendation for**  
20 **Utility Source LLC ("Utility Source" or "Company") in this proceeding?**

21 A. Yes. I reviewed Utility Source's application and responses to data requests, and I  
22 inspected the water and sewer systems on August 29, 2006. This testimony and its  
23 attachment present Staff's engineering evaluation.



**ENGINEERING REPORT**

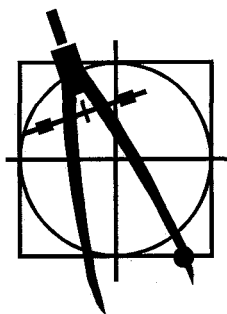
**Q. Please describe the attached Engineering Report, Exhibit JWL.**

A. Exhibit JWL presents the details and analyses of Staff's findings, and is attached to this direct testimony. Exhibit JWL contains the following major topics: (1) a description of the water and wastewater systems and the processes, (2) water use and wastewater flows, (3) growth, (4) compliance with the rules of the ADEQ, Arizona Department of Water Resources ("ADWR"), and the Commission, (5) depreciation rates, (6) curtailment plan tariff.

Staff's conclusions and recommendations from the engineering report are contained in the "Executive Summary", above.

**Q. Does this conclude your direct testimony?**

A. Yes, it does.



**ENGINEERING REPORT  
FOR  
UTILITY SOURCE LLC  
DOCKET NO. WS-04235A-06-0303 (RATES)**

**DECEMBER 22, 2006**

**A. LOCATION OF UTILITY SOURCE LLC ("UTILITY SOURCE" OR "COMPANY")**

Utility Source is located approximately eight miles west of Flagstaff, near Bellemont in Coconino County. Figure A-1 shows the location of Utility Source within Coconino County and Figure A-2 shows the certificated area.

**B. DESCRIPTION OF WATER AND WASTEWATER SYSTEMS**

**Water System**

The water and wastewater systems were field inspected on August 29, 2006, by Jian W Liu, Staff Utilities Engineer, in the accompaniment of Gary Bulechek, representing Utility Source.

Utility Source's water Certificate of Convenience and Necessity ("CC&N") has approximately 230 acres and wastewater system CC&N has approximately 291 acres.

The water system consists of nine wells, two storage tanks, booster system, and a distribution system serving 337 customers during the test year of 2005. Staff concludes that the existing water system has adequate infrastructure to serve the existing customer base.

Shallow Well #4 and Shallow Well #5 have not been used for last three yeas according to Mr. Jeremy McCaleb, a certified water and wastewater operator for Utility Source. Deep Well #4 was not connected to the existing water system for the test year of 2005. Staff concludes that Shallow Well #4, Shallow Well #5 and Deep Well #4 were NOT used and useful during the test year of 2005.

A system schematic is shown in Figure B-1 with detailed plant facility descriptions as follows:

Table 1. Well Data

ADWR ID No.	Well Name	Pump (HP)	Pump (GPM)	Casing Depth (feet)	Casing Size (inches)	Meter Size (inches)	Year Drilled
55-503545	Shallow Well #1	1	10	215	7	2	1982
55-515324	Shallow Well #2	1	5	105	8	2	1987
55-559096	Shallow Well #3	2	7	240	6	2	1997
55-564258	Shallow Well #4	2	12	300	7		1998
55-593267	Deep Well #1	10	11	1947	8	2	2002
55-598834	Deep Well #2	50	23	2100	8	2	2003
55-203241	Deep Well #3	125	72	2801	10	2	2004
55-598623	Shallow Well #5	2	10	300	6		2004
55-206887	Deep Well #4		371	2908	16		2005

Note: GPM = gallons per minute.

Table 2. Storage Tanks

Capacity (Gallons)	Quantity (Each)
422,000	1
258,000	1
Totals: 680,000	2

Table 3. Booster Systems

Horsepower	Quantity
15	2
75	1

Table 4. Water Mains

Diameter	Material	Length (in feet)
6-inch	C-900	900
8-inch	C-900	14,563
12-inch	C-900	5,860

Table 5. Customer Meters

Size	Quantity
3/4-inch	340
1-1/2-inch	3
2-inch	1
Total	344

Table 6. Fire Hydrants

Size	Quantity
Standard	33

### Wastewater System

The operation of the wastewater system consists of a wastewater treatment plant, two lift stations and collection system serving approximately 337 service laterals during the test year of 2005. Wastewater treatment is provided by a 150,000 gallon per day ("gpd") SANTEC activated sludge process with de-nitrification. The plant has been operating at approximately 45,000 gpd. Staff concludes that the existing wastewater system has adequate infrastructure to serve the existing customer base.

Table 1. Wastewater Treatment Plant

Name or Description	Plant Items	Location
Plant #1	37,500 gallon per day ("GPD") extended aeration, step feed system	Near Intersection of Shadow Mountain and Bellemont Springs Roads
Plant #2	100,000 GPD extended aeration	Same as above

Table 2. Lift Stations

Location	Quantity of Pumps	Horsepower per Pump	Capacity per Pump (GPM)	Wet Well Capacity (gals.)
Bellemont Travel Center	2	1.5	50	1,500
Flagstaff Meadows	2	3.0	150	8,000

Notes: GPM = gallons per minute and gals = gallons.

Table 3. Force Mains

Size	Material	Length (Feet)
4-inch	SDR-35	2,200
	Total:	2,200

Table 4. Manholes

Type	Quantity
Standard	60

Table 5. Cleanouts

Quantity
1

Table 6. Collection Mains

Diameter	Material	Length (Feet)
8-inch	SDR-35	16,224
12-inch	SDR-35	360
	Total:	16,584

Table 7. Service Laterals

Size	Quantity
4-inch	327
6-inch	3
Total:	330

A system schematic is shown for the wastewater treatment plant ("WWTP") in Figure B-2.

### C. WATER USE

#### Water Sold

Based on the information provided by Utility Source, water use for the year 2005 is presented in Figure C-1. Customer consumption experienced a high monthly average water use of 236 gallons per day ("GPD") per connection and a low monthly average water use of 122 GPD per connection for an average annual use of 171 GPD per connection.

#### Non-Account Water

Non-account water should be 10% or less and never more than 15%. It is important to be able to reconcile the difference between water sold and the water produced by the source. A water balance will allow a water company to identify water and revenue losses due to leakage, theft, and flushing. The Company reported 20,798,494 gallons pumped and 19,575,654 gallons sold, resulting in a water loss of 5.88% for 2005. Non-account water is within acceptable limits.

#### Wastewater Flows

Based on the information provided by the Company, wastewater flow for the year 2005 is presented in Figure D-1. Customers experienced a high monthly average wastewater flow of 180 GPD per connection and a low monthly average wastewater flow of 127 GPD per connection for an average annual wastewater flow of 151 GPD per connection.

### D. GROWTH

During the test year 2005, Utility Source had approximately 337 water and wastewater customers. It is projected that Utility Source could have approximately 537 water customers by 2010, and 789 wastewater customers by 2010 because two proposed developments have their own water supply.

E. ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY COMPLIANCE  
("ADEQ")

Compliance

Based on data submitted by the Company, ADEQ has determined that the water system (Public Water System #03-300) has no deficiencies and is currently delivering water that meets the water quality standards required by the Arizona Administrative Code, Title 18, Chapter 4. (ADEQ report dated February 7, 2006).

Arsenic

The U.S. Environmental Protection Agency ("EPA") has reduced the arsenic maximum contaminant level ("MCL") in drinking water from 50 parts per billion ("ppb") to 10 ppb. The most recent arsenic levels at Utility Source did not exceed 10 ppb for all producing wells. Based on this arsenic concentration, the Company is in compliance with the new arsenic MCL.

Wastewater

Compliance Status

ADEQ regulates the wastewater system under Inventory #104083, Permit # 32797. ADEQ correspondence dated March 21, 2006, indicated that the facility is in compliance with ADEQ regulations.

F. Water Testing Expense

The Company is subject to mandatory participation in the Monitoring Assistance Program ("MAP"). Starting January 1, 2002, water companies paid a fixed \$250 per year fee, plus an additional fee of \$2.07 per service connection (\$2.57 per service connection minus \$0.50 refund per service connection) regardless of meter size for participation in MAP. Participation in the MAP program is mandatory for water systems, which serve less than 10,000 persons (approximately 3,300 service connections). The Company has 337 service connections for calendar year 2006, so the MAP fee is \$947.59.

The Company reported its water testing expense at \$8,553 during the test year. Staff has reviewed the Company's testing expense and has recalculated the testing costs based on the Company's laboratory costs. Table A shows Staff's annual monitoring expense estimate of \$2,446 with participation in the MAP.



**Table A. Water Testing Expense**

Monitoring – Based on 5 sampling points (Tests per 3 years, unless noted.)	Cost per test	No. of tests per 3 years	Total 3 year cost	Annual Cost
Total Coliform – monthly	\$ 20	180	3600	1200
Inorganics (& secondary)	MAP	MAP	MAP	MAP
Radiochemical – (1/ 4 yrs)	MAP			MAP
IOC's, SOC's, VOC's				MAP
Nitrites	MAP			MAP
Nitrates - annual	\$ 18	15	270	90
Asbestos – per 9 years	MAP			MAP
Lead & Copper - annual	\$ 25	25	250	208
MAP fees (annual)				\$948
Total				<b>\$2,446</b>

Staff recommends its annual water testing expense of \$2,446 be used for purposes of this application.

#### G. ARIZONA DEPARTMENT OF WATER RESOURCES (“ADWR”) COMPLIANCE

Utility Source is not within any Active Management Area, and consequently is not subject to ADWR reporting and conservation rules.

#### H. ARIZONA CORPORATION COMMISSION (“ACC” or “COMMISSION”) COMPLIANCE

A check with the Utilities Division Compliance Section showed that there were no delinquent compliance items for Utility Source (Email dated May 26, 2006).

#### I. DEPRECIATION RATES

In recent orders, the Commission has been shifting away from the use of composite rates in favor of individual depreciation rates by National Association of Regulatory Utility Commissioners (“NARUC”) category. (For example, a uniform 2.50 percent composite rate would not really be appropriate for either vehicles or transmission mains and instead, different specific retirement rates should be used.)

Staff has developed typical and customary depreciation rates within a range of anticipated equipment life. These rates are presented in Table E1 for water systems and in Table E2 for

wastewater systems. It is recommended that Utility Source use these depreciation rates by individual NARUC category on a going forward basis.

J. CURTAILMENT PLAN TARIFF

Utility Source has a curtailment plan tariff filed with the ACC.

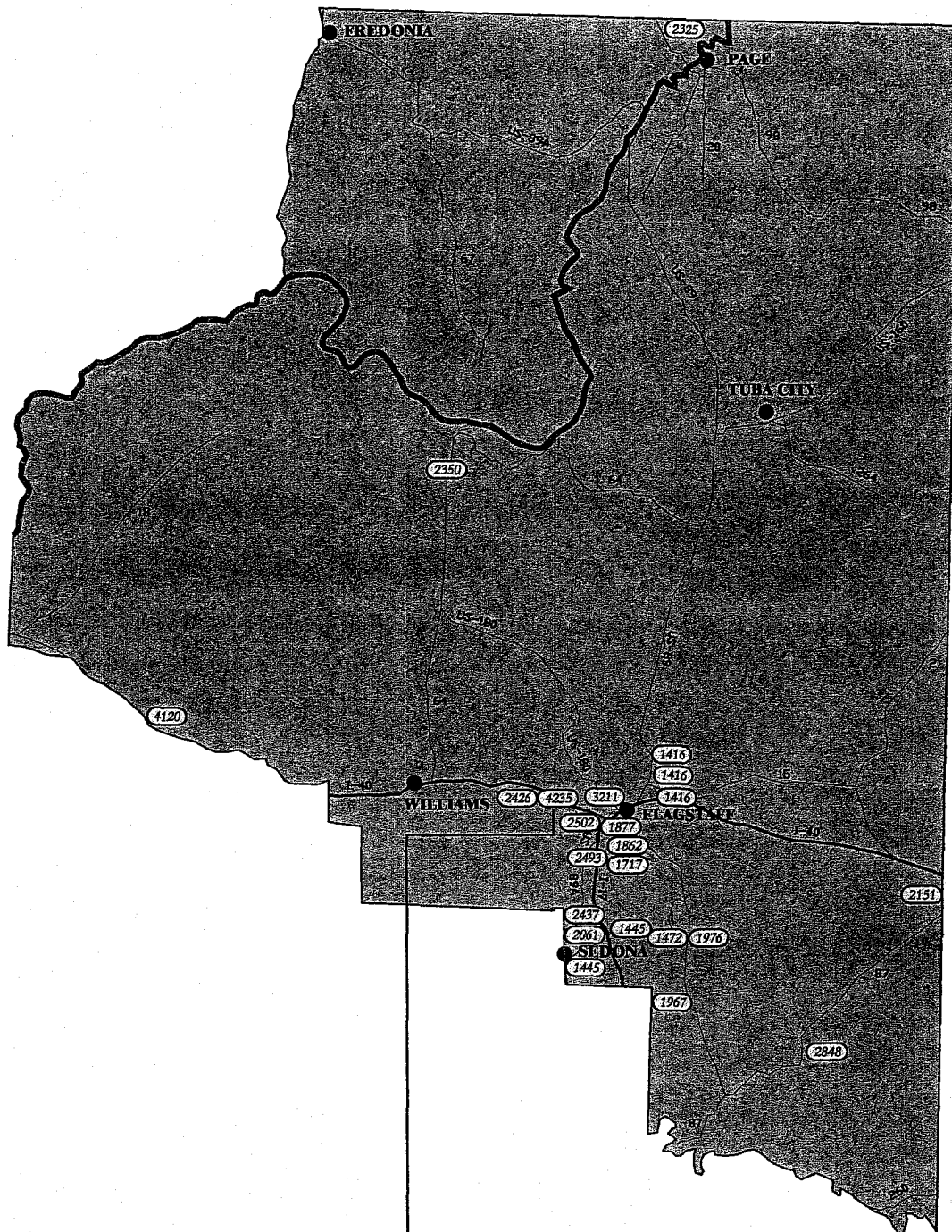
## FIGURES

Coconino County Map .....	Figure A-1
Certificated Area .....	Figure A-2
Water System Schematic .....	Figure B-1
Sewer System Schematic .....	Figure B-2
Water Use.....	Figure C-1
Wastewater Flow .....	Figure D-1

## TABLES

Water Depreciation Rates .....	Table E1
Wastewater Depreciation Rates .....	Table E2

# COCONINO COUNTY



- |      |  |      |  |
|------|--|------|--|
| 1445 | ARIZONA WATER COMPANY                          | 1877 | MOUNTAIN DELL WATER, INC.                    |
| 2426 | BELLEMONT WATER COMPANY                        | 2061 | OAK CREEK UTILITY CORPORATION                |
| 1416 | DONEY PARK WATER                               | 1717 | PONDEROSA UTILITY CORPORATION                |
| 2502 | FLAGSTAFF RANCH WATER COMPANY, INC.            | 2848 | STARLIGHT WATER COMPANY, INC.                |
| 2493 | FOREST HIGHLANDS WATER COMPANY                 | 1967 | STONEMAN LAKE WATER COMPANY                  |
| 4120 | GRAND CANYON CAVERNS AND INN, LLC              | 1976 | TALL PINE ESTATES WATER & IMPROVEMENT ASSOC. |
| 2325 | GREENEHAVEN WATER COMPANY, INC.                | 2350 | TUSAYAN WATER DEVELOPMENT ASSOCIATION, INC.  |
| 1862 | HECKETHORN WATER COMPANY                       | 3211 | WEST VILLAGE WATER COMPANY                   |
| 2437 | JUNIPINE COMMUNITY PROPERTY OWNERS ASSOCIATION | 2151 | WINSLOW WEST WATER COMPANY, INC.             |
| 1472 | MORMON LAKE WATER COMPANY                      | 4235 | UTILITY SOURCE, LLC                          |

Figure A1

# COUNTY: *Coconino*

## RANGE 5 East

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

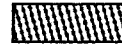
TOWNSHIP 22 North

TOWNSHIP 21 North



W-2526

Bellemont Water Company



WS-4235

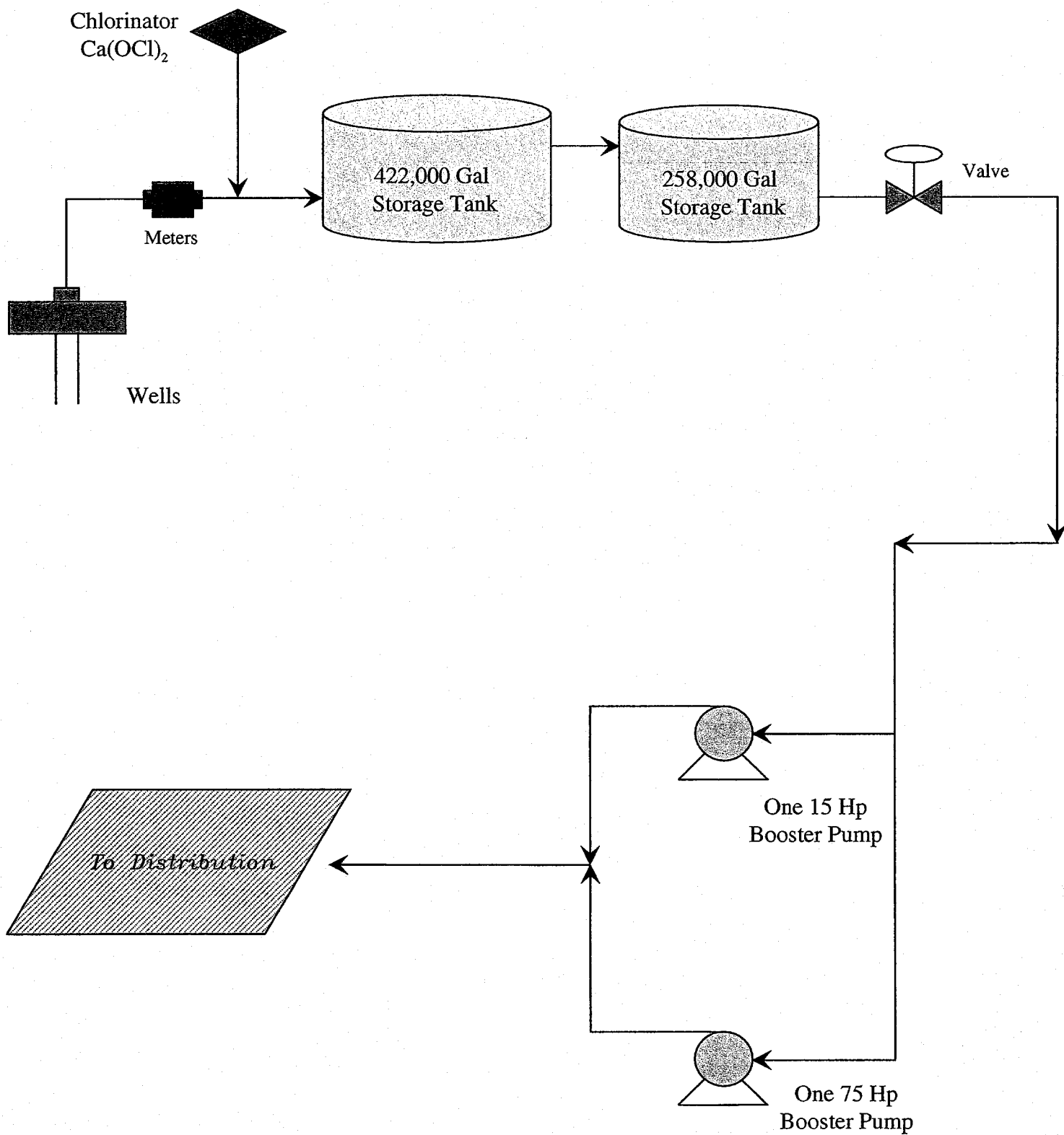
Utility Source, LLC



Utility Source, LLC

Docket No. WS-04235A-05-0707

Application for Extension



**Process Schematic**  
**Utility Source, L.L.C.**  
**PWS ID# 03-300**

**Figure B-1**

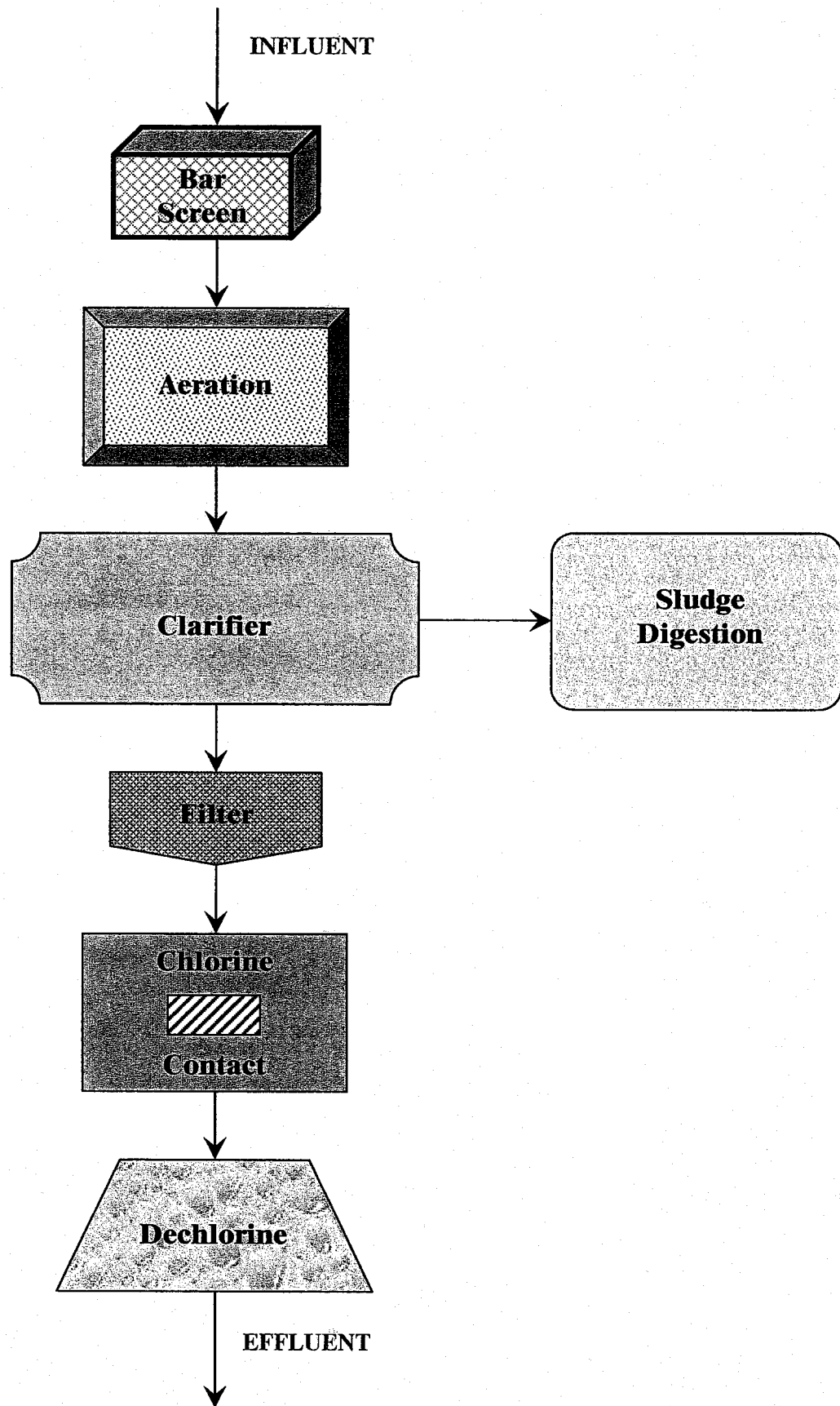


Figure B-2

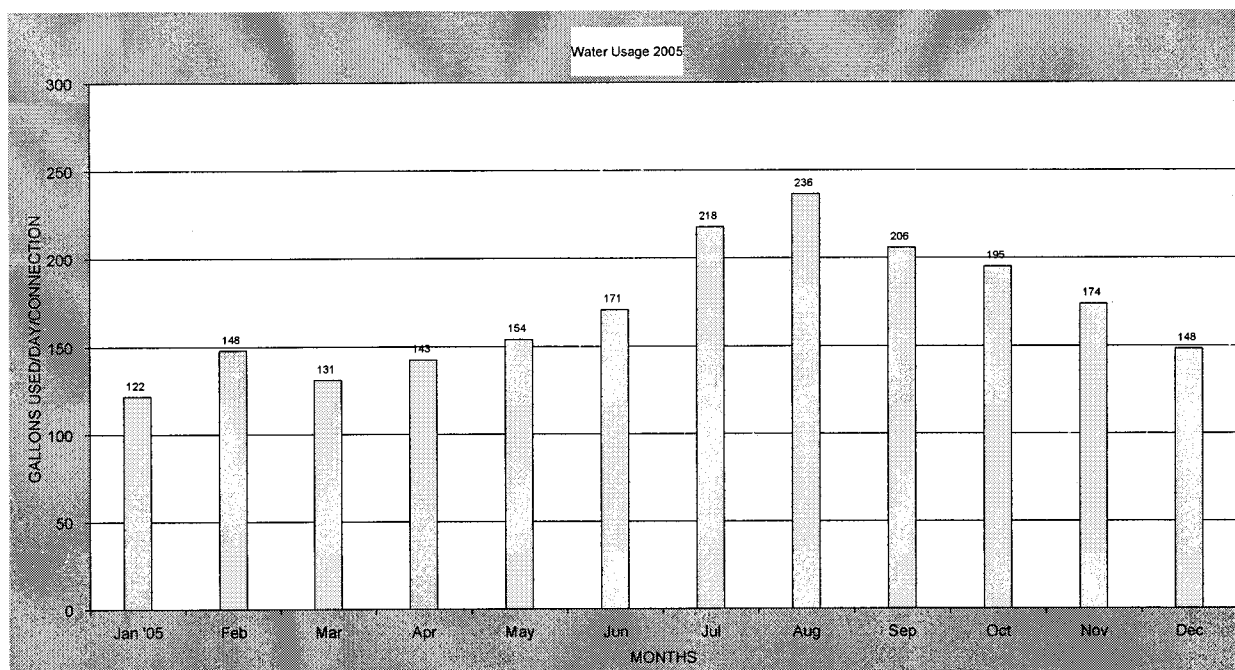


Figure C-1. Water Use



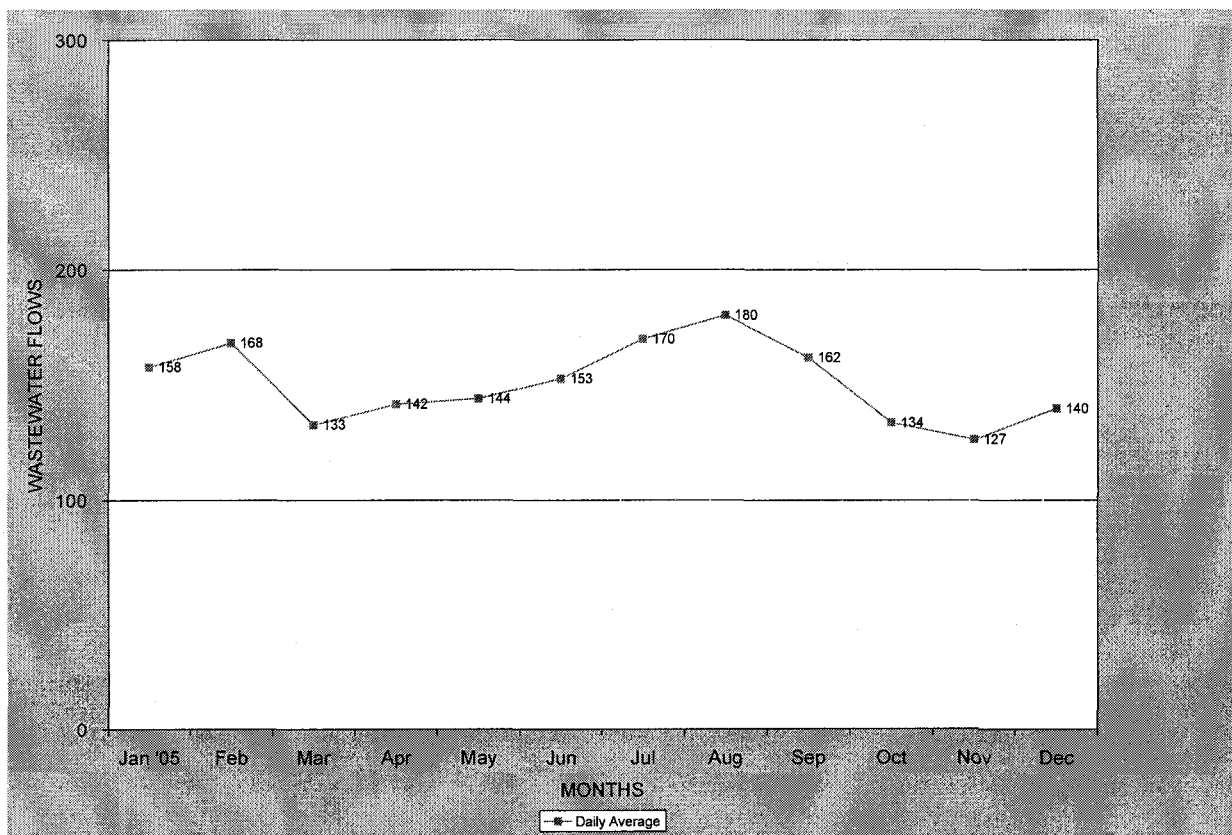


Figure D-1 Wastewater Flow

Table E1. Water Depreciation Rates

NARUC Acct. No.	Depreciable Plant	Average Service Life (Years)	Annual Accrual Rate (%)
304	Structures & Improvements	30	3.33
305	Collecting & Impounding Reservoirs	40	2.50
306	Lake, River, Canal Intakes	40	2.50
307	Wells & Springs	30	3.33
308	Infiltration Galleries	15	6.67
309	Raw Water Supply Mains	50	2.00
310	Power Generation Equipment	20	5.00
311	Pumping Equipment	8	12.5
320	Water Treatment Equipment		
320.1	Water Treatment Plants	30	3.33
320.2	Solution Chemical Feeders	5	20.0
330	Distribution Reservoirs & Standpipes		
330.1	Storage Tanks	45	2.22
330.2	Pressure Tanks	20	5.00
331	Transmission & Distribution Mains	50	2.00
333	Services	30	3.33
334	Meters	12	8.33
335	Hydrants	50	2.00
336	Backflow Prevention Devices	15	6.67
339	Other Plant & Misc Equipment	15	6.67
340	Office Furniture & Equipment	15	6.67
340.1	Computers & Software	5	20.00
341	Transportation Equipment	5	20.00
342	Stores Equipment	25	4.00
343	Tools, Shop & Garage Equipment	20	5.00
344	Laboratory Equipment	10	10.00
345	Power Operated Equipment	20	5.00
346	Communication Equipment	10	10.00
347	Miscellaneous Equipment	10	10.00
348	Other Tangible Plant	10	10.00

Table E2. Wastewater Depreciation Rates

NARUC Acct. No.	Depreciable Plant	Average Service Life (Years)	Annual Accrual Rate (%)
354	Structures & Improvements	30	3.33
355	Power Generation Equipment	20	5.00
360	Collection Sewers – Force	50	2.0
361	Collection Sewers- Gravity	50	2.0
362	Special Collecting Structures	50	2.0
363	Services to Customers	50	2.0
364	Flow Measuring Devices	10	10.0
365	Flow Measuring Installations	10	10.00
366	Reuse Services	50	2.00
367	Reuse Meters & Meter Installations	12	8.33
370	Receiving Wells	30	3.33
371	Pumping Equipment	8	12.50
374	Reuse Distribution Reservoirs	40	2.50
375	Reuse Transmission & Distribution System	40	2.50
380	Treatment & Disposal Equipment	20	5.0
381	Plant Sewers	20	5.0
382	Outfall Sewer Lines	30	3.33
389	Other Plant & Miscellaneous Equipment	15	6.67
390	Office Furniture & Equipment	15	6.67
390.1	Computers & Software	5	20.0
391	Transportation Equipment	5	20.0
392	Stores Equipment	25	4.0
393	Tools, Shop & Garage Equipment	20	5.0
394	Laboratory Equipment	10	10.0
395	Power Operated Equipment	20	5.0
396	Communication Equipment	10	10.0
397	Miscellaneous Equipment	10	10.0
398	Other Tangible Plant	----	----

NOTE: Acct. 398, Other Tangible Plant may vary from 5% to 50%. The depreciation rate would be set in accordance with the specific capital items in this account.